

CHAPTER 3

METHODS AND PROCEDURES

The methodology and research procedures used in the study are presented in this chapter. The primary purpose of the study was to determine how school-based learning is linked to workplace performance for students currently involved in cooperative education programs. The study focused on individual students' perceptions, teacher-coordinators' perceptions, and employers' perceptions of instances in the students' work experiences that reflect how school-based learning gives context to their work-based learning and how work-based learning is linked to their school-based performance. The following sections are included in this chapter: (a) research procedures, (b) participant selection process, (c) interview protocol instrument development, (d) data collection, (e) data analysis, and (f) summary.

Research Procedures

A qualitative interview research design was chosen as an appropriate means of obtaining data relevant to the assimilation of students enrolled in cooperative education into the workplace. According to Bogdan and Taylor (1975), "qualitative methodologies refer to research procedures which produce descriptive data: people's own written or spoken words and observable behavior" (p.4). Ely, et al. (1991) noted that qualitative research is better understood by the characteristics of its methods than by a definition. Among the characteristics of qualitative research are the following: "qualitative researchers want those who are studied to speak for themselves, to provide their perspectives in words and other actions. Therefore, qualitative research is an interactive process in which the persons studied teach the researcher about their lives. Qualitative

researchers attend to the experience as a whole, not as separate variables. The aim of qualitative research is to understand experience as unified” (p. 4). One qualitative research method that lends itself to this study is the interview.

Bogdan and Biklen (1982) noted that an interview is “a purposeful conversation usually between two people (but sometimes involving more) that is directed by one in order to get information” (p. 135). They further noted that the major purpose of an interview is to learn to see the world from the eyes of the person being interviewed. The researcher learns from the interviewees as informants and seeks to discover how they organize their behavior. Spradley and McCurdy (1972) described the interview approach as “the researcher asks those who are studied to become the teachers, and to instruct her or him in the ways of life they find meaningful” (pp. 11-12).

The procedures detailed in this chapter were used to address the following research questions, which were answered through the use of interviews.

1. What school-based experiences do students, teachers, and workplace supervisors perceive have provided learning in the context needed for the work-based experiences of students enrolled in cooperative education?
2. What work-based experiences do students, teachers, and workplace supervisors perceive as providing context to school-based learning experiences of students enrolled in cooperative education?
3. What additional school-based learning experiences can students, teachers, and workplace supervisors identify that would help students who are enrolled in cooperative education relate their school learning to the workplace?

Data for the study was collected through means of interviews with 30 individuals: 10 business students enrolled in cooperative education, 10 teacher-coordinators, and 10 workplace supervisors. The interviews, designed to last 30 to 45 minutes, were tape recorded. The researcher used an interview protocol sheet to guide the interviewees through the questions and take notes about them.

Participant Selection Process

Due to travel constraints, ten secondary school sites in southwest Virginia were selected for the study. Secondary school administrators were telephoned to ask for written permission to contact a cooperative education business or marketing teacher-coordinator in their schools. After written permission was received from each school administrator, as required by Human Subjects Clearance procedures, one teacher-coordinator at each school was contacted by telephone and asked to participate in the research study. The teacher-coordinator was then asked to select two students enrolled in cooperative education who were currently working to participate in the study. Criteria for student selection was based on the student's willingness to participate, being able to obtain parental consent for the student to participate in the interviews, and being able to get the student's workplace supervisor to participate. Additionally, the student must have been on the job for at least three months. Only one student was interviewed at each site, but the teacher was asked to select two students to ensure back-up if one of the previous criteria could not be met by one of the students. The teacher was also asked to help coordinate the three interviews at the site. At each site separate interviews were conducted with the student, the teacher-coordinator, and the workplace supervisor.

After the initial contact was made with the school administrators and teacher-coordinators of cooperative education by telephone, formal follow-up letters were mailed

to each detailing the nature of the study. Letters were also sent to the selected students and workplace supervisors requesting their participation in the research study. A parent or legal guardian of each selected student signed a consent form allowing the student to participate in the research study. A copy of the letters and consent form appear in Appendix A.

Interview Protocol Development

Interview protocols, which appear in Appendix B, were developed based on the research questions to be addressed in the study. Three interview protocols were developed--one for the student enrolled in cooperative education, one for the teacher-coordinator of cooperative education, and one for the workplace supervisor.

The interview questions are divided into four distinct areas. Question one serves as an ice-breaker. Participants were asked to discuss their roles in cooperative education, including school-based and work-based activities. If interviewees did not understand the terms school-based learning and work-based learning, the researcher provided further clarification. Teacher-coordinators were asked to discuss how they have helped students to prepare for and adapt to the workplace; students enrolled in cooperative education were asked to describe their cooperative education job; and workplace supervisors were asked to discuss their role in helping students to adapt to the workplace.

In question two, teacher-coordinators of cooperative education were asked to list five specific activities or experiences they had provided to help students prepare for the workplace; students enrolled in cooperative education were asked to list five significant experiences they have had on the job that their school-based learning experiences prepared them to handle; and workplace supervisors were asked to list five specific activities and experiences where the students had exemplified that they were prepared for the

workplace. In each instance, interviewees were asked to select one activity and expand upon it further by giving details such as who was involved, what happened, what was the outcome, and what knowledge, attitudes, or skills were being exhibited in this activity. Emphasis was placed on expanding input relevant to situated learning.

In question three, interviewees were asked to identify five specific experiences the student had during cooperative placement that related to the students' school-based learning. From the five identified experiences, they were asked to pick one and expand upon it further by giving details such as who was involved, what happened, what was the outcome, and what knowledge, skills, or attitudes the student learned through the activity. Again, emphasis was placed on expanding input relevant to situated learning.

Question four asked teacher-coordinators what additional school-based experiences could students have had that would make them better link school with work; students enrolled in cooperative education were asked what experiences they would like to have had in their school-based activities that would have helped them to be more competent in their work experience; and workplace supervisors were asked what additional experiences they would like for the school to provide to students that would help them be better prepared to enter the workplace.

The interview protocols were developed by the researcher after review of the literature and were designed to answer the research questions outlined in chapter one. Question one served as a basis or foundation that enabled interviewees to provide background information. Question two was prepared to answer research question one; question three was prepared to answer research question two; and question four was prepared to answer research question three. In addition to these four questions, interviewees were asked to provide demographic information.

The instruments were field-tested with a student enrolled in cooperative education at the post-secondary level, a post-secondary teacher-coordinator of cooperative education, and a workplace supervisor. Feedback from the field-test participants required the researcher to make some changes in the interview protocols. The changes consisted of clarification and simplification of questions for ease of understanding. Field-testing of the instruments gave the researcher an understanding of potential responses and possible misunderstandings that might arise from the questions. The interview protocols were also reviewed by the major advisor and research professor before use in the interview process.

Identical procedures were used in each interview session. The purpose of the interview was explained to participants. They were informed that the interviews would be audio-taped and notified that their participation was entirely voluntary. Parental consent was obtained for students who participated in the study. Each participant was advised before the recorder was turned on that if there were any questions they would prefer not to answer they could decline to respond. Further, they could request that the tape be turned off at any time during the interview.

Data Collection

The researcher telephoned each teacher-coordinator of cooperative education to ask for participation in the study and to coordinate the three interviews at the site--one interview with the teacher-coordinator, one with a student from business or marketing enrolled in cooperative education, and the student's workplace supervisor. The researcher conducted the interviews in locations selected by the teacher-coordinator. Follow-up letters were sent to each participant following the contacts by telephone. One day prior to the interview, each participant was contacted by telephone to confirm the time, place, and availability of the interviewee. The researcher arrived at the interview

site thirty minutes prior to each interview in order to set up the audio tape equipment, as taping was the principal means of capturing information from each participant. The researcher served as moderator and recorded appropriate responses on the interview protocol sheet. The interview tapes were transcribed and placed into *The Ethnograph* (1988) software. Additionally, a compilation of the notes from the interview protocol sheets were made following the interviews.

Following each interview session, the interview tape was given a code name to assure the subject of anonymity. The code name was referred to in any further mention of the interview. The code name was also recorded on the interview protocol sheet, which was filed with the transcribed tape of the interview. The use of the interview protocol sheet in this study allowed the researcher to record pertinent data regarding interviewee responses as well as reflections about surroundings, interruptions, span of time, and other information while they were still fresh in mind rather than depending on memory.

Accuracy of Transcripts

After all interview tapes were transcribed, the accuracy of the transcripts was verified by a panel of three individuals not otherwise connected with the study. Letters from each of the three individuals verifying accuracy of the tapes are included in Appendix C.

The researcher randomly selected three tapes of the interview sessions and the corresponding transcripts of the tapes for tape review. The panel member listened to one tape, reviewing the transcript, and attesting to the accuracy of the written transcripts.

Analysis

In qualitative research, analysis is “part and parcel of the on-going, intertwined process that powers data collection” (Ely, et al., 1991, p.86). Yin (1984, p. 99) reports that “analysis consists of examining, categorizing, tabulating, or otherwise recombining the evidence, to address the initial proposition of the study.”

Tapes were transcribed and field notes compiled for analysis. Transcripts were read and coded by highlighting key words. Emerging themes were determined based on the highlighted terms. Coded transcripts were then placed into *The Ethnograph* software, a computer software program designed to aid researchers in coded information retrieval. The goal of the analysis was to identify trends and patterns in perceptions (Krueger, 1994).

As each interview session was transcribed, a duplicate copy of the transcript was made. The original transcript remained intact throughout the data analysis process, allowing the researcher to refer to the original text. Data was then organized through use of themes that emerged, which were assigned a code. The themes were established through units of information consisting of phrases, sentences, and segments of text.

These segments of text were sorted using *The Ethnograph* software based on codes assigned. The coded segments were retrieved and analyzed according to themes. The basis for theme development was determined based on the literature regarding skills needed by students entering the workplace. Among those themes are the five competencies and the three foundational skills identified by the SCANS (1991) report and the eleven skills used in the Raymond, McNabb, and Matthaiei (1993) study.

The five competencies identified in the SCANS report that effective workers can productively use are (a) resources: allocating time, money, materials, space, and staff; (b) interpersonal skills: working on teams, teaching others, serving customers, leading, negotiating, and working well with people from culturally diverse backgrounds; (c) information: acquiring and evaluating data, organizing and maintaining files, interpreting and communicating, and using computers to process information; (d) systems: understanding social, organization, and technological systems, monitoring and correcting performance, and designing or improving systems; and (e) technology: selecting equipment and tools, applying technology to specific tasks, and maintaining and troubleshooting technologies. The SCANS report also identified a three-part foundational skills necessary for workers. The foundational skills include (a) basic skills: reading, writing, arithmetic and mathematics, speaking, and listening; (b) thinking skills: thinking creatively, making decisions, solving problems, seeing things in the mind's eye, knowing how to learn, and reasoning; and (c) personal qualities: individual responsibility self-esteem, sociability, self-management, and integrity.

Also considered for use were the eleven skills used in the Raymond, McNabb, and Matthaie (1993) study. They include oral skills, written skills, interpersonal skills, dependability, motivation, enthusiasm, self-starter, functional skills, quantitative skills, work experience, and ability to meet deadlines. The SCANS foundational skills and competencies, however, proved to be more comprehensive and served as the organizer for the presentation of the study results.

The knowledge, skills, and attitudes identified above served as the basis for theme development. Other themes were included as they emerged in the transcripts. Themes were identified as those participants perceived as linking school-based experiences to work-based performance and how work-based learning relates to school learning, including

how the two are interlinked. Quotes were taken from the transcripts to illustrate each theme.

Summary

In this chapter, research procedures, the participant selection process, interview protocol instrument development, data collection, and data analysis were described. The study involved a qualitative approach, using the interview process to gather data. Thirty subjects were interviewed in sessions lasting approximately 45 minutes. Each session was recorded with audio cassette tapes. Additional information was written by the researcher on the interview protocol sheets. Tapes of the sessions were transcribed and tapes assigned a code name. The corresponding interview protocol sheets were also assigned the code names.

Contents of the transcripts was examined for themes that emerged. These themes were assigned a code name and the transcripts were placed into *The Ethnograph* software. Accuracy of the transcripts were attested by three individuals who compared the printed page with the audio tape of the interview sessions. Findings regarding the examination of each theme are reported in Chapter Four.