AN ABSTRACT OF THE THESIS OF


Abstract Approved: Redacted for Privacy

Larry J. Kenneke

PURPOSE

The purpose of this study was to improve instructional system design at Small Business Development Centers by developing a best practice model for assessing client training needs. Two research questions were addressed:

1. Is self-directed learning an appropriate framework for instructional system design at Small Business Development Centers?
2. What are the components of a self-directed learning-based model for assessing the training needs of Small Business Development Center clients in Small Business Management programs?

The theoretical framework that guided the research was constructivism.
METHODS

Data collection included:

- reviews of self-directed learning, instructional system design, needs assessment and Small Business Development Center literature;
- preliminary interviews of Small Business Development Centers clients and instructors and university professors;
- facilitation of a Delphi Method (using email); and
- final interviews of the Delphi panelists.

Analysis included qualitative and quantitative techniques. Findings included the compatibility of self-directed learning with Small Business Development Center educational practices and Delphi panel consensus on 34 training needs assessment items.

CONCLUSIONS AND RECOMMENDATIONS

The conclusions were:

1. Self-directed learning is an appropriate framework for instructional system design at Small Business Development Centers.
2. Knowles’ Andragogical Process Model is an appropriate foundation upon which to design instructional systems for Small Business Development Centers.
3. A self-directed learning-based training needs assessment model that incorporates the components of Knowles’ Andragogical Process Model serves the needs of clients enrolled in the Small Business Management program at Small Business Development Centers.
4. Self-directed learning-based instructional systems for graduate programs in business and adult education will prepare personnel qualified to improve Small Business Development Center and other adult education programs.

A model for assessing client training needs at Small Business Development Centers was developed from this study. The model illustrates the integration of self-directed learning with instructional design in Small Business Management programs.

Recommendations were made for program development and further research. Self-directed learning-based instructional designs were recommended for Small Business Development Center and adult education program developers. Research is needed to test the model and to conduct action research that includes Small Business Development Center instructors and clients and university professors.
A Self-Directed Learning-Based Model for
Training Needs Assessment of
Clients at Small Business Development Centers

by

Glenn C. Good

A DOCTORAL DISSERTATION

submitted to

Oregon State University

in partial fulfillment of
the requirements for the
degree of

Doctor of Philosophy

Presented June 5, 1996
Commencement June 1997
I understand that my thesis will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my thesis to any reader upon request.
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A Self-Directed Learning-Based Model for Training Needs Assessment of Clients at Small Business Development Centers

CHAPTER I

INTRODUCTION

The advancement of theory and practice related to self-directed learning (SDL) may be the key to more productive educational experiences throughout the human lifespan (Confessore & Confessore, 1992). The concept of SDL has an almost cultlike quality amongst adult educators to the extent that many view SDL as the essence of adult learning (Caffarella, 1993). For example, Mezirow (1981) states “enhancing the learner’s ability for self-direction in learning is a foundation for a distinctive philosophy of adult education” (p. 21). Enhancing self-direction can be viewed as facilitating a change for adult learners from dependent roles to interdependent roles. Self-directed learning grants the learner the opportunity and the ability to make learning decisions (Garrison, 1989). It is a collaborative process and the degree of self-directedness is negotiated between the teacher and learner, not dictated by the teacher.

Since Houle first popularized the term in 1961, research into the nature and processes of SDL has flourished and a substantial body of scholarly writing exists on the topic. However, Long (1991) commented that “self-directed learning as a theoretical, research and applied topic may be compared to a gangling adolescent whose physical growth has not been matched by social, emotional and mental maturity” (p. 2).

How then can SDL be applied in adult educational systems? This study sought to answer that question within the context of the Small Business Development Center (SBDC) small business management (SBM) program.
Context

A nation's standard of living and international competitiveness are influenced by the level of labor productivity and its long-term economic growth (Baumol, 1985). Long-term economic growth is positively influenced by increasing the level of skills and knowledge of the work force.

Small businesses contribute substantially to US economic growth in terms of job creation and innovation. According to Cutler (1984), between 1980 and 1982 the large business sector eliminated 1,664,000 jobs while the small business sector created 2,650,000 jobs. Many small businesses, such as Apple Computer, have developed innovative products that have enhanced US international competitiveness and have created jobs.

However, according to Myers (1990), a weakness of US businesses is their failure to utilize new technologies and to manage their operations efficiently and effectively. Research indicates that management skills and the availability of capital are the most important factors in small business success (Peterson, Kozmetzky, Ridgway, 1983; Steinmetz, 1969). Therefore, programs that improve the management skills of small businesses have the potential to significantly improve our national standard of living and international competitiveness.

Publicly funded assistance to small businesses is provided by Small Business Development Centers (SBDCs). The national SBDC program is specifically designed to improve the management skills of small businesses (US Small Business Administration, 1993). The SBDC program is a cooperative effort between educational communities (typically colleges or universities), state governments and the US Small Business Administration (SBA). The public sector supports the SBDC program in the belief that assistance to small businesses positively influences our national standard of living and international competitiveness.

The national SBDC program has existed since 1977. There are currently 57 SBDCs located in all 50 states, the District of Columbia, Puerto Rico and the Virgin Islands. The SBDCs have approximately 700 service locations in colleges, universities,
vocational schools, chambers of commerce and economic development offices (US Small Business Administration, 1993).

Each statewide SBDC program is comprised of a headquarters or control center and a network of local centers that provide small businesses with one-to-one counseling and various short- and long-term educational programs in business management. For example, the Oregon Small Business Development Center Network was established in 1984 and is headquartered at Lane Community College (Cutler, 1984). In Oregon there are currently 22 individual centers statewide that had budgets totaling $3,955,577 in 1993 (Oregon Small Business Development Center Network, 1993).

Training programs at SBDCs can be broadly categorized into two areas. Going-into-business programs assist individuals considering starting up or buying a business. Small business management (SBM) programs provide education and training for owners of existing small businesses.

Most SBM programs are cohort-type. Groups of 10 to 20 small business owners attend 9 to 12 monthly meetings (at night, approximately 4 hours in duration) for education and training in small business management. The areas of study are established by the SBM instructors and do not change significantly from year to year. The monthly meetings are usually conducted by SBM instructors on SBDC premises.

A typical program for an SBM client includes a private meeting with the SBM instructor, the completion of an application, the completion of a management assessment questionnaire prior to, or on the first night of, training, attendance at the monthly classes, periodic one-on-one counseling sessions with the SBM instructor, periodic evaluations of the program and an end-of-program reassessment of management ability.

Some SBM programs also include monthly meetings of small groups consisting of four to five members of the larger SBM group. The small group meetings are held on a rotating basis at the business premises of the participants.

Virtually all participants of SBM programs are adults who independently own small businesses; however, some SBM cohorts include bankers, public agency personnel and others who desire to learn more about small business management.
The backgrounds of most SBM instructors include a Master of Business Administration degree and experience in managing a small business. Few SBM instructors have extensive education or experience in teaching or instructional system design (ISD) prior to entering the profession. The instructional models used by the graduate schools attended by the SBM instructors influence the instructional designs in their SBDC programs (personal communications with SBDC instructors, January, 1996).

Client training needs assessment (TNA) for the SBM program is done in a variety of ways at different SBDCs. Most SBM programs require the completion of a management assessment questionnaire prior to the commencement of training activities. The questionnaires typically ask the potential SBM client to rate his or her capabilities in a variety of areas that have been classified as strategic, administrative or operational (Chrisman, Carsrud, DeCastro & Herron, 1990). Likert-type scales are used and most questionnaires include at least one open-ended question requesting the client’s purpose for seeking training at the SBDC. The subsequent use of these questionnaires ranges from nil to a follow-up completion of the questionnaire at the end of training, which compares beginning versus ending ratings of management capabilities. Other methods of assessing a client’s training needs include personal interviews before and during training and in-class instructor requests for program evaluation.

Problem Statement

Researcher communications with west coast SBDC personnel revealed an awareness on their behalf of the field of adult education, SDL, ISD and TNA. However, resource constraints limit their ability to investigate how they might use current adult education research to improve SBM programs.

The SBDC program includes practices such as collaborative versus authoritative roles for SBM instructors and encouragement of the SBM clients to take responsibility for their learning. However, the instructors acknowledged that some of their educational practices may be inconsistent with SDL theory. This study grew from the researcher's
personal communications with SBDC personnel and a mutual desire to improve small business management educational practice.

A review of the SDL, SBDC and TNA literature indicated that these three bodies of knowledge exist independently of each other. Suggested areas for future research in the SDL literature included the development of practical applications; conversely, the SBDC literature lacked theoretical foundations and research specific to instructional system design and needs assessment.

The problem is that instructional system design components at SBDCs are inconsistent with each other; some are learner-centered and some are teacher-centered. A collaborative, learner-centered environment is desired by both learners and instructors, yet some instructional components are non-collaborative. For example, needs assessments are conducted in the traditional teacher-centered manner. The instructors lack the necessary resources to improve their instructional systems.

Research Objective

The objective of this research was to improve instructional system design at SBDCs by developing a best practice model for assessing the training needs of clients in the SBM program at SBDCs. The model’s conceptual framework was derived from SDL.

Research Questions

The study addressed two research questions. Each question had three subquestions. The questions and subquestions follow:
1. Is self-directed learning an appropriate framework for instructional system design at Small Business Development Centers?

1.1 What are the underlying philosophical assumptions and the research knowledge base of self-directed learning?

1.2 What is instructional system design, what are some essential components of instructional design models and what is training needs assessment?

1.3 What are the history, research base and practices of Small Business Development Centers?

2. What are the components of a self-directed learning-based model for assessing the training needs of Small Business Development Centers clients in Small Business Management programs?

2.1 Who should be involved in the development of the needs assessment model components?

2.2 When should Small Business Development Centers client needs assessments be conducted?

2.3 What are needs assessment processes and products that are valuable and practical for the Small Business Management program at Small Business Development Centers?

Research Design

The research questions were addressed by using formal and action research techniques, as well as qualitative and quantitative methods. The theoretical framework and the methods are summarized in the following sections.
Theoretical Framework

According to Freire (1985) "All educational practice implies a theoretical stance on the educator's part. This stance in turn implies -- sometimes more sometimes less explicitly -- an interpretation of (humanity) and the world" (pp. 43-44). Constructivism is the theoretical framework that guided the study. Constructivism claims that reality is in an individual's mind. It is constructed, or at least interpreted by individuals based upon their experiences. Merrill (1991) describes constructivist learning as an internal constructive process that is personal (without shared reality), active, collaborative and situated.

Methods

Research Question 1 was addressed using qualitative research methods that included literature reviews and preliminary interviews. The SDL, ISD and TNA literature were reviewed. Preliminary interviews were conducted with SBDC instructors, SBDC clients and university professors.

Research Question 2 was addressed primarily quantitatively using the Delphi Method; qualitative support was provided by conducting final interviews with the Delphi panel members. The Delphi Method panel consisted of nine members drawn from the preliminary interview participants. Three iterations were facilitated by the researcher and descriptive statistics were calculated for each item on the surveys.
Definitions Utilized in the Study

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

**Best Practice Model**

An application of instructional practice that integrates the components considered to be essential to the optimum implementation of a particular instructional theory (Johanson, 1996).

**Instructional System Design (ISD)**

A systematic process of planning, implementing and evaluating instructional programs (Seels & Glasgow, 1990).

**Small Business**

A company independently owned and operated, not dominant in its industry, with 500 employees or less (Oregon Department of Economic Development).

**Small Business Development Center (SBDC) Program**

A nationwide collective of partnerships comprised of the Small Business Administration, state and local economic development agencies and state universities and/or colleges.

**Small Business Management (SBM) Program**

A long-term educational program at SBDCs for owners of small businesses.
Self-Directed Learning (SDL)

A form of study in which learners take the primary initiative, with or without the help of others, for planning, conducting, and evaluating their own learning activities (Knowles, 1975).

Training Needs Assessment (TNA)

A systematic study of a problem of innovation, incorporating data and opinions from varied sources, in order to make effective decisions or recommendations about what should happen next (Rossett, 1987).

Limitations of Study

The conclusions of this study are limited by the influence of two factors: The researcher's biases and the research design. The limitations are described as follows.

Researcher Bias

Both the impetus for and bias of the study are products of the interests, experience and philosophy of the researcher. Since 1980, I have actively worked with small businesses in the two areas considered by researchers to be crucial to small business success: Management skill and capital (Peterson, Kozmetzky, Ridgway, 1983; Steinmetz, 1969). As a volunteer in business development for the US Peace Corps, a manager for the US Small Business Administration and a Vice President for a bank, I have extended credit and have provided management advice to small businesses for approximately 12 years. I also served on the advisory board of a SBDC for three years.

Since 1991, I have been employed as a teacher and trainer in business management. I have earned a Master of Business Administration degree and I have
taught community college courses in small business management, marketing, finance and accounting. My experiences as a trainer include providing international marketing consulting for small-scale vegetable growers in Mexico, conducting workshops on agribusiness management in Sri Lanka and collaborating with several SBDCs in the provision of small business management training to Russian business leaders.

In developing this research study, I have become aware of the fact that I hold certain assumptions, or biases, that result from my education and life experiences. These assumptions, or biases, are listed below:

1. The goal of the adult educational process is to create self-directed, interdependent learners. Many universities and training providers do more to promote learner dependency than self-direction.
2. Knowledge cannot be taught, only learned. This, however, is not to say that all learners should be responsible for all their own teaching.
3. Self-direction can be learned and taught.

Research Design

Qualitative and quantitative methods were used to answer the research questions. Research Question 1 was addressed using a qualitative design that included case study and ethnographic methods. Strauss and Corbin (1990) define qualitative research as "any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification" (p. 17). Case studies are common in business management education (Borg, Gall & Gall, 1993). In case studies, researchers interact with subjects and learn their perspectives through interviews. A theoretical or conceptual framework is used by researchers to understand the data that is collected in case studies (Borg, Gall & Gall). In this study, constructivism was utilized to interpret the data.

Ethnography focuses on the study of the reality of individuals, their behavior in naturally occurring settings and the total context affecting them (Borg, Gall & Gall, 1993). A distinctive characteristic of ethnography is its focus on culture. Researcher
involvement ranges from observation of the culture with sufficient participation to gain the confidence of its members to full participation in the culture. This study included observations of, as well as interviews with, SBDC clients and instructors.

A qualitative design limits the data interpretation to the researcher's inductive and/or intuitive processes (Bodgan & Biklen, 1982). Erickson (1986) states that "the object of interpretive research is action...(and) because actions are grounded in choices of meaning interpretation, they are always open to reinterpretation and change" (p.127). Qualitative research acknowledges that individuals enter into research studies with inherent biases based on their own experiences, values and beliefs. Erickson states that "ethnography should be considered a deliberate inquiry process guided by a point of view, rather than a reporting process guided by a standard technique or set of techniques, or a totally intuitive process that does not involve reflection" (p. 51).

Quantitative research reaches conclusions based on statistical procedures (Borg, Gall & Gall, 1993). Research Question 2 was answered, in part, by the modified Delphi Method, which included the use of descriptive statistics.

The Delphi Method has been both lauded and criticized (Sackman, 1974). Its benefits include the non-confrontational process for eliciting diverse opinions on a topic, its practicality for busy professionals (particularly when performed using email and fax) and its consensus building potential. Critics question the Delphi's reliability and validity.

Nineteen participants were interviewed as a part of this study: The Delphi Method that was facilitated consisted of nine panelists. Due to the small number of participants, the conclusions of this study may not apply to other SBDCs.

Potential Advantages of the Research

Krathwohl (1977) suggests that the potential advantages of studies developing new methodology should be stated early in the research process. This study has the potential to: Improve educational practice and TNA at SBDCs and ultimately enhance small business management.
CHAPTER II

REVIEW OF THE LITERATURE

The review of the literature is divided into three sections: A review of SDL literature, a summary of selected ISD and TNA literature and an analysis of empirical studies conducted on or at SBDCs.

Self-Directed Learning

Since Houle popularized the term in 1961 in the classic book The Inquiring Mind: A Study of the Adult who Continues to Learn, SDL literature has received more attention and has more proponents than any other area in adult education (Garrison, 1992). Although some confusion exists in the literature as to what SDL is, three areas of focus have emerged that conceptualize it as a self-initiated process of learning, as a personal attribute and as a way of organizing instruction (Caffarella, 1993). Knowles’ (1975) description of SDL as a form of study in which people take the primary initiative, with or without the help of others, for planning, conducting and evaluating their own learning activities is often cited in the adult education literature.

Presented in the following subsections are the underlying philosophical assumptions of SDL and an overview of SDL research. The SDL section concludes with implications of SDL literature for this study.

Philosophical Assumptions

The philosophical assumptions underlying SDL are humanistic and constructivist (Caffarella, 1993). From the humanistic perspective, the focus of learning is on self-development, with learners expected to assume primary responsibility for their own learning. The process of learning is learner-centered.
Constructivism is a theory of learning that proposes that knowledge is constructed, or at least interpreted, by the learner based on the learner’s prior experience and the social context. Constructivism does not preclude the existence of an external reality, it claims that each of us constructs our own reality by interpreting an external world (Jonassen, 1991).

Constructivists hold that learners, not teachers, construct and interpret reality based on their own individual experiences, needs and interests. Lebow (1993) offers seven constructivist values: Collaboration, personal autonomy, generativity, reflectivity, active engagement, personal relevance, and pluralism. Thus, for learning to be meaningful, both educators and learners must be involved in construction of instructional goals and methods.

Constructivism and SDL can be contrasted with objectivist philosophy and behaviorist learning theory. Objectivism holds that there is an objective reality that learners assimilate (Jonassen, 1991). The role of educators is to help students learn about the real world. Students are expected to gain the knowledge that is transmitted by teachers.

Learning, according to behaviorists, is an overt change in the behavior of the learner that is influenced by environmental control and instructor reinforcement (Jonassen, 1991). Stimuli produces responses from learners that are either positively or negatively reinforced by instructors. Within the behaviorist framework, ISD becomes a “deliberate process that tries to control and direct learning toward predictable ends” (Seels & Glasgow, 1990, p. 23).

Marsick (1988) asserts that the predominant approach to workplace learning is highly structured and falls within the framework of behaviorism. It measures individuals against expert derived norms, consists of classroom-based formal group activities and focuses on “pure” learning problems. Many critics maintain that traditional behaviorist processes are too mechanistic, linear and inflexible (Kember & Murphy, 1990).

Behaviorism and SDL offer different, contrasting frameworks for use in structuring educational systems. Behaviorism is teacher-centered whereas SDL is learner-centered. Behaviorist educators assume the primary responsibility for planning,
implementing and evaluating learning experiences. A collaborative learning environment in which the learner is involved in all aspects of ISD is encouraged in SDL.

Self-Directed Learning Research

Efforts to build SDL theory did not commence until the 1960's (Merriam & Caffarella). Houle (1961) interviewed 22 adults who were recommended as avid, continuing learners. The research broke new ground by moving away from the prevailing notion that research had to involve large numbers of respondents and by placing the learners themselves at the center of the research process. Two areas for further research emerged from Houle's work: Adult participation and SDL (Candy, 1992).

Subsequent to Houle's work in the 1960's, several lines of SDL inquiry developed. The three areas discussed in the subsections that follow are verification studies, SDL process studies and SDL as a personal characteristic.

Area One: Verification Studies

Verification studies have concluded that a significant number of adults initiate, carry out and evaluate learning projects. Tough (1967, 1979), who had earlier been a graduate student of Houle, pioneered verification studies and made two substantial contributions to the research base in SDL. The first contribution was that approximately 90% of adults engage in learning projects. Secondly, Tough estimated that 80% of the adult learners independently planned their learning project and that 73% of the time the adult learners did the day-to-day planning. Penland (1979) found that 76% of persons 18 years and older in the United States had planned one or more learning projects during a year period. Most SDL learning activities have a practical and pragmatic focus as documented in various studies (Merriam & Caffarella, 1991; Tough, 1979).
Tough’s interview protocol became a standard in research on adult education. This interview method used a trained interviewer who took at least one hour to ask questions about learning that the interviewee had done during the previous year.

A range of other verification studies have been conducted with different types of adults: Pharmacists (Johns, 1973), mothers with young children (Coolican, 1974), extension agents (Bejot, 1981), nurses (Kathrein, 1981), farmers (Bayha, 1983) and students (Kratz, 1978). Although disagreement exists on the amount and type of self-directed learning that goes on, the existence of SDL as a form of study has been established (Brookfield, 1984; Caffarell & O’Donnell, 1987, 1988).

Area Two: Self-Directed Learning Process Studies

The second strand of research has centered on the process of SDL. Early studies on how adults take responsibility for their own learning suggest that the learner undertakes a linear process similar to that found in formal learning environments. Tough (1979) lists 13 steps that learners take in projects ranging from deciding what skill to learn to finding time for learning. Knowles (1975) outlined a similar process in the five steps listed below.

1. diagnosing learning needs;
2. formulating learning goals;
3. identifying human and material resources for learning;
4. choosing and implementing appropriate learning strategies; and
5. evaluating learning outcomes.

Both Tough and Knowles state that SDL is not always an isolated event, that adults often choose to enter formal educational programs. Brookfield’s (1988) definition is more restrictive: “If self-direction is held to mean that the learner has complete control over the learning content, purposes, evaluative criteria and methods, then the educator ceases to be an educator in any meaningful sense” (p. 35). The literature suggests that although
self-directed learners take primary responsibility for the learning process, the learning activity can take place in a variety of settings (Merriam & Caffarella, 1991).

Many SDL proponents view the SDL adult learning process as collaborative. The degree of control of content, methods and evaluation should be negotiated between teacher and learner. Tough (1979) and Knowles (1975) outline ways educators can help people become more competent learners, including coaching, facilitating, and providing different perspectives.

Other descriptions of the SDL process offered by Spear and Mocker (1984), Danis and Tremblay (1988) and Berger, (1990) are contrary to the linear process described by Tough and Knowles. Spear and Mocker studied 78 adults with less than a high school education and found that “self-directed learners, rather than pre-planning their learning projects, tend to select a course from limited alternatives which tend to structure their learning projects” (p. 4). Spear (1988) subsequently studied 10 training and development specialists and found that the learning process centered around 7 components. Learning projects are composed of sets of these components.

Danis and Tremblay’s (1988) investigation of 10 long-term adult learners indicated that the learners were able to specify learning goals only after they had mastered certain knowledge or skills. Berger (1990) studied Caucasian males with high school degrees and found little evidence that the learners had pre-planned their learning activities. Berger’s research participants constantly redefined their projects, changed course and followed new paths of interest.

Area Three: Self-Directed Learning as a Personal Characteristic

A third strand of SDL research has investigated SDL as a personal characteristic of learners. The assumption underlying this research strand is that learning in adulthood means becoming more self-directed (Knowles, 1980). Researchers have tried to link different variables with SDL, including readiness to learn, educational level, personality factors, learning style, locus of control, field independence, life satisfaction, creativity and autonomy (Merriam & Caffarella, 1991). Chene (1983) characterizes self-directed
learners as independent, able to make choices and capable of articulating the norms and the limits of a learning activity.

However, as with the SDL process strand of research, personal characteristic studies are contradictory. For example, Deroos (1982) found that an abstract learning style was positively related to a person's SDL. Theil (1984) found that it was the accommodator style, not the abstract learning style, that was related to success in SDL.

**Implications for this Study: Self-Directed Learning**

Two implications for this study emerged from the review of SDL literature. First, the philosophical assumption underlying SDL is constructivism, which implies that SDL is appropriate for learning settings that are collaborative and that encourage learners to take responsibility for their own learning. Second, of the three research areas evident in the literature, the area that addresses ways of organizing learning is most pertinent to this study. The concept of organizing learning can also be described as ISD.

**Instructional System Design**

Instructional system design is a systematic process of planning, implementing and evaluating instructional programs (Seels & Glasgow, 1990). Three distinct areas are included in SDL: A self-initiated process of learning, a personal attribute and a way of organizing instruction (Caffarella, 1993). The discussion of ISD is comprised of a section on theoretical foundations and history, a section on ISD models, a section on Knowles’ (1990) andragogy and a section on the implications for this study.

**Theoretical Foundations and History**

The theoretical foundations of ISD flow from the social and behavioral sciences. Roots from the ISD movement reach back to the systems approach used during World
War II, an approach that arose from the need to train large numbers of soldiers quickly. The field has also been influenced by systems analysis, education and management theory. Finally, information science, which includes audiovisual media, information management, computer science and communications theory, has contributed to ISD development (Johnson, 1989; Seels & Glasgow, 1990).

In 1954 B.F. Skinner proposed the need for a technology of instruction. This proposal lead to the development of programmed instruction, which is often considered to be the first system of instruction that is theoretically-based. In Skinner's case, the underlying theory was behaviorism. Since Skinner, most instructional systems have been behaviorist-oriented. Cooper (1993) distills three basic assumptions of behaviorism: It is objectivist, meaning the key to analyzing human behavior is in the observation of external events; the environment is a significant factor in determining human behavior; and reinforcement affects subsequent behavior.

During the 1960s and 1970s, interactive and discovery learning approaches, influenced by cognitive, developmental and information processing theories, gained momentum and challenged the influence of behaviorism. Theorists such as Dewey, Piaget, Bruner and Gagne contributed to a view of the learner as an active explorer in the learning process. Cognitivists have little interest in stimulus or response, but view learning as internal thought processes that include short term sensory storage, short-term memory and long term memory. Several ISD models are based on cognitivism (Gagne & Briggs, 1979; Briggs, 1977).

In recent years, constructivism has increasingly influenced ISD. From an adult learning standpoint, the important assumption of constructivism is that meaning is created by the learner based on his or her own experiences. Jonassen (1990) describes three stages of knowledge acquisition: Introductory, advanced and expert. Constructivistic learning is most compatible with the second stage; advanced knowledge acquisition. Jonassen recommends objectivistic approaches for introductory knowledge acquisition; experts seldom need instructional support. Winn (1991) supports Jonassen's view by the comment that there is a point where complexity of learning makes prediction of performance and prescription of instruction impossible. Merrill (1991) categorizes
constructivism as moderate or extreme. While extreme constructivism may be appropriate for some formal learning environments, moderate constructivism has much that should be considered by instructional designers.

Lebow (1993) lists five principles for constructivist ISD:

1. Maintain a buffer between the learner and the potentially damaging effects of instructional practices.
2. Provide a context for learning that supports both autonomy and relatedness.
3. Embed the reasons for learning into the learning activity itself.
4. Support self-regulation through the promotion of skills and attitudes that enable the learner to assume increasing responsibility for the developmental restructuring process.
5. Strengthen the learner’s tendency to engage in intentional learning processes, especially by encouraging the strategic exploration of errors.

Lebow’s principles are compatible with Jonassen’s (1991) suggestions for changing from objectivistic to constructivist ISD, which are detailed below:

1. Instructional goals and objectives would be negotiated, not imposed.
2. The goal of ISD would be less concerned with prescribing mathemagenic instructional strategies necessary to lead learners to specific learning behaviors.
3. Evaluation of learning would become less criterion-referenced.

Cooper (1993) suggests that behaviorism, cognitivism and constructivism offer different paradigms from which ISD can be viewed and developed. Instructional designers with a behaviorist view of learning will likely engage in instructional design differently than constructivists. The following section describes some ISD models evident in the literature.
Instructional System Design Models

Instructional system design models give visual form to the ISD process and enable one to see at a glance the nature of the process. The generic ISD model (Seels & Glasgow, 1990) is linear and comprised of five steps: Analysis, design, development, implementation and evaluation. Most ISD models are in fact linear and require doing each step in a prescribed order. Other models are iterative and some allow varying degrees of flexibility. Some of the better known ISD models used over the last 20 years include the IDI Model (Wittich & Schuller, 1973), the Air Force Model (U.S. Air Force, 1975), the Briggs Model (1977), the Gagne & Briggs Model (1979), the Dick & Carey Model (1985), the Kemp Model (1985), the Andragogical Process Model (Knowles, 1990) and the Seal & Glasgow Model (1990).

The Dick and Carey Model (1985) has been used extensively in college level courses to train instructional designers (see Figure 1). Characteristics common to most ISD models are evident: Planning, implementing and evaluating. The planning function is evident throughout Dick and Carey’s ISD components. The identification of goals, objectives, entry behaviors, developing strategies, identifying materials and instructional analysis are consistent with implementation. Two evaluation components are included: Formative and summative. Formative evaluations are similar to needs assessment processes before and during training. Summative evaluations are conducted at the end of, or after, the instructional program. Dick and Carey’s model and most others fail to recognize the significant contributions learners can make to ISD. Knowles’ (1990) Andragogical Process Model exemplifies this most important element.
Figure 1
Dick and Carey Model

Note. Adapted From Design of Instruction, 1995 by W. Dick and L. Carey
**Knowles Andragogy**

Knowles (1980) developed one of the first models for assisting adult learners to reach their potential and subsequently further refined the model and named it the Andragogical Process Model (Knowles, 1990). Knowles (1984) defines andragogy to be “the art and science of adult education” (p. 43). Andragogy is based on five assumptions considered to be characteristics of adults (Knowles, 1990), which are:

1. As a person matures, his or her self-concept moves from that of a dependent personality toward one of a self-directing human being.
2. An adult accumulates a growing reservoir of experience, which is a rich resource of learning.
3. The readiness of an adult to learn is closely related to the developmental tasks of his or her social role.
4. There is a change in time perspective as people mature from future application of knowledge to immediacy of application. Thus an adult is more problem-centered than subject-centered in learning.
5. Adults are motivated to learn by internal factors rather than external ones.

The term andragogy was originally used for an adult education theory, versus the traditional pedagogical models which were considered appropriate for children. However, in a later edition of *The Adult Learner* (1990), Knowles comments that andragogy and pedagogy are valuable methods of instructional design and both are useful paradigms for adults and children, depending on the context.

Knowles’ Andragogical Process Model is a constructivist and SDL-based ISD model. The principal difference between the prior behaviorist-based instructional models and Knowles constructivist-based, SDL oriented andragogy is the issue of power, or control. In behaviorism, the power remains with the teacher. Knowles’ method shifts the power within the teacher-learner relationship so that it is more evenly distributed. Responsibility for learning also shifts from the teacher to the learner in constructivist-
oriented instructional designs such as SDL and andragogy. The seven steps in Knowles model are detailed in Table I.

**TABLE I**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>climate setting</td>
</tr>
<tr>
<td>2</td>
<td>mutual planning</td>
</tr>
<tr>
<td>3</td>
<td>mutual assessment of needs</td>
</tr>
<tr>
<td>4</td>
<td>mutual objective formulation</td>
</tr>
<tr>
<td>5</td>
<td>mutual learning plan formulation</td>
</tr>
<tr>
<td>6</td>
<td>helping learners carrying out plans</td>
</tr>
<tr>
<td>7</td>
<td>mutual evaluation of learning.</td>
</tr>
</tbody>
</table>

*Note.* Adapted from *The Adult Learner, A Neglected Species* by M.S. Knowles, 1990, Houston, Texas, Gulf Coast Printing.

The primary thrust of the Andragogical Process Model, and what differentiates it from the generic ISD model and the other prominent ISD models earlier discussed, is its foundation in constructivism and SDL. The influence of SDL on the Andragogical Model is evident in Knowles' consistent use of the word “mutual” in describing objective formulation, plan formulation and evaluation. Behaviorist models generally limit activities in these areas to educators.

Andragogy's challenge to behaviorism and the pedagogical status quo caused controversy and critical analysis (Bard, 1984). The early point of criticism of andragogy was Knowles' promotion of it as a theory of adult learning. Hartree (1984) questioned whether andragogy was a theory of learning or a theory of teaching. Knowles (1990) subsequently stated that andragogy was situation specific; the use of andragogical or pedagogical techniques depended on the situation. Brookfield (1986) argued that
andragogy was not a theory and that it was problematic as a source of principles of good practice. Davenport and Davenport (1985) reviewed the use and history of the term andragogy and summarized the debate amongst researchers as to whether it was a theory of education or a set of principles.

Few empirical studies have tested the hypothesis that adult learning will be enhanced if andragogical, SDL-based ISD models are used in educational systems. Beder and Darkenwald (1982) interviewed teachers of adults and pre-adults to see if they varied their teaching depending upon student age. The teachers reportedly viewed adults differently and used more andragogical techniques with them. However, Gorham (1985) observed teachers of adults and pre-adults in classroom settings and reported no difference in teaching methods. The teachers claimed, though, that they did treat the two groups differently. A Beder and Carrera (1990) study concluded that teachers who used andragogical methods improved student attendance but did not affect how students evaluated them. Rosenblum and Darkenwald (1983) found no significant differences in the achievement and satisfaction between groups of students that planned their course and those that had it planned for them.

Andragogy's and SDL's ability to serve as theories and predict educational outcomes has been neither proven nor disproved by the research. What is certain is that SDL and andragogical instructional practices that encourage learners to change from dependent roles to independent and interdependent roles are intuitively valid to many adult learners and adult education practitioners (Pratt, 1988).

Implications for this Study: Instructional System Design

The implication of the ISD literature is that Knowles (1990) Andragogical Process Model is a constructivist, SDL-based instructional model and may be appropriate for creating collaborative, learner-centered classrooms at SBDCs.
Needs Assessment

A component of most ISD and program planning models is an assessment of the learners needs. However, Caffarella (1988) asserts that often this assessment is done superficially if at all. Rossett (1987) defines needs assessment as “A systematic study of a problem or innovation, incorporating data and opinions from varied sources, in order to make effective decisions or recommendations about what should happen next” (p. 3).

Needs Analysis Categories

Gordon’s (1994) training model is representative of most instructional systems and is presented in Table II. Pertinent here is Phase One: Front-End Analysis, which is known elsewhere by many names: Training needs assessment, training needs analysis, pre-training analysis, front end analysis and simply analysis. Gordon summarizes that needs assessment consists of three activities: Organizational analysis, task analysis and trainee analysis.

Organizational analysis collects data regarding the age, stage of growth, type and size of the trainee’s employer or business. For example, the organizational training needs of small businesses vary depending on the stage of growth of the business. Research suggests that as businesses grow in size the management requirements change (Steinmetz, 1969; Greiner, 1972; Churchill & Lewis, 1983). In other words, the knowledge, skills and abilities of a prospective owner of a small business are most likely different from those of a mature small business owner. Therefore, the training needs of small business persons are likely to vary depending on the stage of growth of their business.
### TABLE II

GORDON’S DESIGN MODEL FOR TRAINING
1994

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1: Front-End Analysis</td>
<td>Needs assessment</td>
</tr>
<tr>
<td></td>
<td>Organizational analysis</td>
</tr>
<tr>
<td></td>
<td>Task analysis</td>
</tr>
<tr>
<td></td>
<td>Trainee analysis</td>
</tr>
<tr>
<td>Phase 2: Design and Development</td>
<td>Design concept development</td>
</tr>
<tr>
<td></td>
<td>Initial system development and prototyping</td>
</tr>
<tr>
<td></td>
<td>Formative evaluation</td>
</tr>
<tr>
<td></td>
<td>Full-scale development</td>
</tr>
<tr>
<td></td>
<td>Final user testing</td>
</tr>
<tr>
<td>Phase 3: System Evaluation</td>
<td>Finalize evaluation criteria</td>
</tr>
<tr>
<td></td>
<td>Design evaluation program</td>
</tr>
<tr>
<td></td>
<td>Collect and analyze data</td>
</tr>
</tbody>
</table>

**Note.** Adapted from *Systematic Training Program Design* by S.E. Gordon, 1994,

**Organizational Analysis**

The necessity of differentiating the needs of beginning versus advanced owners can be clarified by examining how training needs may change as businesses grow. The major small business growth models developed by Steinmetz (1969), Greiner (1972) and Churchill & Lewis (1983) describe stages of growth ranging from start-up to mature businesses. Table III summarizes Churchill & Lewis’ small business growth stages. The educational program for a stage pre-one individual may include establishing personal and professional goals and market potential, whereas a stage five individual may be interested in additional markets and cost control.
TABLE III
CHARACTERISTICS OF COMPANIES AT DIFFERENT STAGES OF GROWTH 1983

<table>
<thead>
<tr>
<th>Stage</th>
<th>Number of Employees</th>
<th>Dollar Amount of Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-One</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>One</td>
<td>Owner</td>
<td>Start-up Capital</td>
</tr>
<tr>
<td>Two</td>
<td>Below 25</td>
<td>Below $500 Thousand</td>
</tr>
<tr>
<td>Three</td>
<td>25</td>
<td>$500 Thousand</td>
</tr>
<tr>
<td>Four</td>
<td>250</td>
<td>$7 Million</td>
</tr>
<tr>
<td>Five</td>
<td>500</td>
<td>$25 Million</td>
</tr>
</tbody>
</table>


Task Analysis

Task analysis is performed to determine the knowledge and skill components that are desired by training participants. It is necessary to specify these components to determine the appropriate instructional support system. Knowledge and skills common in many SBDC programs include bookkeeping, accounting, marketing, computers and management.
Trainee Analysis

Trainee analysis identifies relevant characteristics of the people who will be participants in the program. Several basic types of information are collected from the trainee: Demographic background, knowledge of skill components and perceptions of needs.

Needs Assessment Tools and Techniques

Rossett (1987) sets forth five central purposes for TNA:

1. to determine optimal performance or knowledge;
2. to determine actual current performance or knowledge;
3. to seek the feelings of the trainees and significant others;
4. to identify the causes of the problem from many perspectives; and
5. to generate solutions to the problem from many different perspectives.

Rossett summarizes techniques and tools to serve the five purposes in Table IV. The techniques include extant data analysis, needs assessment and subject matter analysis. Information collection tools include interviews, observations, groups, surveys and the Delphi Method.

Implications for this Study: Needs Assessment

Gordon's (1994) organizational analysis and Churchill and Lewis's stage of small business growth theory (1983) imply that the ISD for owners of existing businesses should differ from that of the ISD for programs for prospective business owners.

Rossett's (1987) tools have implications for TNA model development at SBDCs. The tools, interviews, groups, observations, surveys and the Delphi Method are feasible at
SBDCs. Rossett also suggests that the information be collected from various sources, including learners. Learner participation is consistent with SDL.

### TABLE IV

**ROSSETT’S TRAINING NEEDS ASSESSMENT TECHNIQUES, TOOLS AND PURPOSES**
1987

<table>
<thead>
<tr>
<th>Techniques</th>
<th>Tools</th>
<th>Purposes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extant data analysis</td>
<td>Interviews</td>
<td>Optimals</td>
</tr>
<tr>
<td></td>
<td>Observations</td>
<td>Actuals</td>
</tr>
<tr>
<td>Needs assessment + Groups =</td>
<td>Causes</td>
<td></td>
</tr>
<tr>
<td>Surveys</td>
<td>Feelings</td>
<td></td>
</tr>
<tr>
<td>Subject matter analysis</td>
<td>Delphi</td>
<td>Solutions</td>
</tr>
</tbody>
</table>


### Small Business Development Centers

Since its inception, the SBDC program has been the subject of various evaluations and research topics. Kirkpatrick (1994) classifies evaluations in four areas: Reactions, learning, behavior and results which are presented in Table V. The SBDC-related empirical studies that have been conducted consist primarily of what Kirkpatrick would label “reactions” and “results” type evaluations.
### Table V

**Kirkpatrick's Four Levels of Training Evaluations**

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1: Reactions</td>
<td>Measures customer satisfaction, provides immediate feedback, communicates trainers willingness to improve and provides quantitative information for managers and trainers.</td>
</tr>
<tr>
<td>Level 2: Learning</td>
<td>Determining one or more of the following: What knowledge was learned? What skills were developed? What attitudes were changed?</td>
</tr>
<tr>
<td>Level 3: Behavior</td>
<td>Evaluates what change in job behavior occurred because people attended a training program.</td>
</tr>
<tr>
<td>Level 4: Results</td>
<td>Determines what results occurred because of attendance and participation in training program. Results are typically categorized in such areas as: increased revenues, decreased expenses, quality of products/services, improved employee morale</td>
</tr>
</tbody>
</table>

**Note.** Adapted from *Evaluating Training Programs: The Four Levels* by D.L. Kirkpatrick, 1994, San Francisco: Berrett-Kohler.

Four reactions type studies were identified in the literature. Pelham (1985) surveyed SBDC clients in Iowa between 1983 and 1985 to determine the effectiveness of SBDC consultants. The study concluded that SBDCs were rated highly by clients. Elstrott's (1987) study evaluated the consulting activities of Louisiana SBDCs. The
study utilized client reactions to training to draw conclusions. A survey was utilized to obtain data. Results indicated that the respondents felt counseling was effective. Nahavandi and Chesteen (1988) investigated client reactions to assistance in business and marketing planning. Results, based on client responses to a survey, were favorable. Chrisman’s (1989) study investigated by survey how pre-venture SBDC clients perceived the value of strategic, operating and administrative consulting services received from an SBDC. Conclusions indicated that strategic assistance was significantly and positively associated with the perceived value of SBDC services.

Most SBDC-related research has evaluated the economic impact, or results, of the educational program. These “results-type” evaluations have sought to establish SBDC effectiveness in terms of economic impact and utilized various cost-benefit analyses. Robinson (1982) provided one of the first empirical studies of the effectiveness of SBDCs that evaluated SBDC consulting activities in strategic planning. A theoretical framework was not stated. Robinson formulated two hypotheses: The profitability of SBDC counseled firms is not different from the profitability of firms in the two control groups that did not receive counseling and the effectiveness of the SBDC counseled firms is not greater than that of the control groups. Robinson concluded that comprehensive SBDC counseling results in improved profits and effectiveness.

In a subsequent study, Robinson, Pearce, Vozikis and Mescon (1984) expanded the Robinson (1982) methodology to include Cooper's (1979) typology of start-up, early-growth and later-growth stages of development. Two hypotheses were tested: Small business planning is uniformly effective at all three stages of development and the relationship between intensity of strategic planning and each performance measure is dependent on each stage of development. Results indicated that each stage of development may play a contingency role in terms of strategic planning intensity, but not in terms of process.

Chrisman, Nelson, Hoy and Robinson (1985) evaluated the effectiveness of SBDCs using a refined "economic benefit" approach. The contribution to tax revenues that resulted from improvements in the performance of small businesses that had been counseled by SBDC personnel in the states of Georgia and South Carolina was measured.
Results indicated that the Georgia SBDC program approximately pays for itself and that the South Carolina program covers about 70% of its costs.

Chrisman, Hoy and Robinson (1987) built on the earlier Robinson (1982) and Chrisman, Nelson, Hoy and Robinson (1985) study with an updated "economic impact" evaluation of SBDCs in South Carolina. Results indicated that SBDCs generated approximately $1.60 for every $1.00 invested in them.

Chrisman and Leslie (1989) also investigated the relationships between the types of SBDC consulting and the perceived value of the services; however, unlike the prior Chrisman study (1989) that dealt with pre-venture clients, this study sampled established small businesses. The authors concluded that strategic assistance, by itself, had little effect, but comprehensive assistance including strategic assistance was helpful. The majority of benefits from comprehensive assistance came from operating and administrative assistance.

Chrisman, et al. (1990) compared samples of aspiring male and female pre-venture entrepreneurs who received SBDC counseling. Assistance provided by SBDCs was categorized in the areas of strategic, administrative and operating management training. Results indicated that male and female clients of SBDCs were nearly identical in terms of their needs, how they rated the value of SBDC assistance, and their propensity to start businesses. The study found that there was no evidence to justify special treatment programs for women in business.

Chrisman and Katrishen (1994) conducted the first national study of the economic impact of SBDC consulting. A stratified, systematic, random sampling procedure was used in 1990 to select a sample of 10,909 pre-venture and established SBDC clients in 47 states. Results for established business clients showed that more than 80% of respondents stated the SBDC services were beneficial. On the average, sales increased by 8% and employment increased by 6%, exceeding national averages for this period of 1% and .5%, respectively. Results for pre-venture clients showed that for every dollar expended on counseling, approximately $1.84 was returned in tax revenue. In the aggregate, the authors estimate that SBDC counseling activities generate $2.61 in tax revenues for every dollar invested in the SBDC program nationwide.
In a new approach, Lang and Golden (1989) evaluated the efficiency of resource utilization by SBDCs (efficiency is defined as the ratio of outputs or results to inputs or resources). The model used by the researchers was the Data Envelope Analysis, a mathematical programming model with specific application for public sector programs. Results indicated four of the nine SBDCs were efficient at one time or another during the three year reference period. The Data Envelope Analysis model appeared to be a viable method for evaluating efficiency and further testing was recommended.

The review of the SBDC-related empirical studies revealed that research has primarily been done in areas of evaluating participant reactions to training and in quantifying the results, or economic impact of the training. Few conceptual or theoretical frameworks were stated or implied. Adult learning theories such as self-directed learning and critical thinking and practices such as andragogy are not mentioned in the SBDC-related literature. Research has not investigated the amount of learning done by clients or if the training interventions actually change behavior. Small Business Development Center research that investigated TNA was not located.

Summary of Literature Review

Self-directed learning is a widely endorsed concept of adult education that is consistent with constructivism. Proponents of SDL believe that adult learning is enhanced when learners take responsibility for their own learning and have the power to make decisions regarding the educational process. In contrast, in behaviorist models of learning educators have responsibility for, and control over, the educational process. Self-directed learning is a collaborative educational setting that promotes interdependency between educator and learner; whereas behaviorism dictates a hierarchical setting and forces the learner into a dependent role.

Knowles andragogy and the Andragogical Process Model provide a constructivist, SDL-based ISD for use in adult education settings. The principle aspect of the Andragogical Process Model is its encouragement of learner involvement in the planning, implementation and evaluation of their educational programs.
Needs assessment is an integral part of most ISD models. Gordon's (1994) model suggests three categories for TNA: Organizational analysis, task analysis and trainee analysis. Rossett (1987) offers tools and techniques for assessing training needs that can be adapted to SBDC environment including interviews, observations, group discussions, surveys and the Delphi Method.

Review of the SBDC-related empirical studies revealed that research has primarily been conducted in the areas of evaluating participant reactions to training and in quantifying the results of training in terms of its economic impact. Few conceptual or theoretical frameworks were stated or implied. Studies related to ISD or TNA at SBDCs were not located.
CHAPTER III

METHODS

The research objective, development of a best practice model for TNA of clients in the SBM program at SBDCs, was achieved by addressing the two research questions of this study: Is SDL an appropriate framework for ISD at SBDCs? and What are the components of an SDL-based model for assessing the training needs of SBDC clients in the SBM program? The research questions and the methods utilized to address them are listed in Table VI.

TABLE VI

METHODS OF ANSWERING RESEARCH QUESTIONS
1996

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Literature Review</th>
<th>Individual Interviews</th>
<th>Delphi Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Is SDL an appropriate framework for instructional system at SBDCs?</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>2. What are the components of an SDL-based model for assessing the training needs of SBDC clients in SBM programs?</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>
Research Design

The research is classified as a methodology study, which according to Krathwohl, (1977) offers a new approach or a different way of doing things. From this study, a new model for TNA at SBDCs was developed. Formal and action research techniques were utilized, as well as qualitative and quantitative methods. The steps in formal research typically include a problem statement, research question(s), literature review, methods, data analysis and conclusions (Borg & Gall, 1989). Action research has been defined as research carried out by practitioners with a view to improving their professional practice and understanding it better (Cameron-Jones, 1983). Five advantages of action research are suggested by Borg, Gall & Gall (1993): It contributes to the theory and knowledge base, it supports the professional development of educators, it helps build a networking system, it helps educators identify problems and generate solutions and it can be used in all areas of education.

Formal research can be contrasted with action research. Formal research requires extensive training and is performed by skilled researchers only; action research is done by practitioners, or in collaboration with a research specialist. The goal of formal research is to produce knowledge that is generalizable to a broad population; action research seeks to obtain knowledge that can be applied to a specific situation. In formal research, an extensive review of literature focusing on primary sources is usually necessary; in action research, researchers gain a general understanding of the literature related to the subject being studied. In formal research, researchers typically select random samples of the population to eliminate sampling bias; action researchers use students and clients as research participants. Formal research design includes detailed planning to control variables; action researchers plan more loosely and often make changes during the study. Researchers who do formal studies use the most valid and reliable measures available; action researchers use convenient measures. Formal research involves complex analysis of data and test of significance are emphasized; action research uses simpler analysis procedures with a practical, versus statistical, significance. Formal research concentrates on the theoretical significance of the findings and practical
implications are not a requirement; action researchers report findings of practical importance (Borg, Gall & Gall, 1993).

Krathwohl (1977) states that writers of methodology study proposals may find the outline of the procedures section, if detailed, almost totally irrelevant to their plans. They can ignore the headings and write a description of the procedures involved in a straight-forward, logical manner. Steps described in their sequence are usually easiest to explain. The following steps were taken to achieve the research objective of this study.

1. Reviewed the self-directed learning, instructional system design, needs assessment and SBDC literature;
2. Conducted preliminary interviews of SBDC personnel, current and/or former clients of SBDCs, and university professors of business and education;
3. Compiled list of needs assessment times, processes and products;
4. Facilitated a modified Delphi Method;
5. Conducted final interviews with Delphi panel members; and
6. Developed, as a conclusion, a best practice model for SBM client needs assessment at SBDCs.

This research design is graphically presented in Figure 2. Phase One research activities included reviews of the SDL, ISD, TNA and SBDC literature and preliminary interviews with SBDC instructors, SBDC clients and university professors. Subsequent to Phase One, a draft of a TNA model for SBDCs was conceptualized by the researcher. The Delphi Method was facilitated during three iterations that moved the panel to consensus on TNA items at SBDCs. The research findings were then used to develop a best practice model for TNA of SBDC clients. The research conclusions suggested areas of further research.
Figure 2
Research Design

Constructivism

Phase One
Self-Directed Learning

Instructional System Design and Needs Assessment

Phase Two
Model

Initial Model
Delphi Technique

SBDC Context

further research
Data Collection

Data collection were performed in two phases and designed to answer the research questions and subquestions that are listed below.

1. Is self-directed learning an appropriate framework for instructional system design at Small Business Development Centers?

1.1 What are the underlying philosophical assumptions and the research knowledge base of self-directed learning?

1.2 What is instructional system design, what are some essential components of instructional design models and what is training needs assessment?

1.3 What are the history, research base and practices of Small Business Development Centers?

2. What are the components of a self-directed learning based model for assessing the training needs of Small Business Development Centers clients in Small Business Management programs?

2.1 Who should be involved in the development of the needs assessment model components?

2.2 When should Small Business Development Centers client needs assessments be conducted?

2.3 What are needs assessment processes and products that are valuable and practical for the Small Business Management program at Small Business Development Centers?

During Phase One, the literature review and personal interviews were performed. During Phase Two, the Delphi Method and final interviews were conducted. Both Phases, and their respective data collection activities, are further described in the following sections.
Phase One

Phase One data collection techniques were designed to answer research Question 1 and to provide sufficient data to draft an answer to research Question 2. The data collection procedures include a review of the literature and personal interviews.

Research Question 1 had three subquestions. Subquestion 1.1 was answered by reviewing the SDL literature. Data necessary to answer Subquestion 1.2 was collected by reviewing the ISD and TNA literature. Data necessary to answer Subquestion 1.3 was collected by reviewing the SBDC program history and literature and by interviewing SBDC personnel and clients. Data necessary to draft an answer to Research Question 2 was collected by reviewing the SDL, TNA and SBDC literature and by conducting a total of 19 personal interviews of SBDC instructors (4 interviews), SBDC clients (9 interviews) and university professors (6 interviews) with expertise in education and/or business. Phase One preliminary interview responses were prompted, in part, by the use of a preliminary interview questionnaire (Appendix B). The questionnaire was categorized in the three areas suggested by Gordon (1994): Organizational information related to the interviewee’s employer, participant information related to the individual’s education, work experience and TNA opinions related to research Question 2.

The Phase One participants were chosen by the researcher. Four SBDC instructors were selected based upon their interest in improving TNA practices at their respective SBDCs. Each SBDC instructor provided lists of current and former clients that agreed to be interviewed. Three SBDC clients were selected from each of the three SBDCs from the lists provided. Six west coast university professors with experience in adult education and/or business were selected.
Phase Two

Phase Two data collection techniques were designed to answer research Question 2. The data collection procedures included the Delphi Method and personal interviews.

The Delphi Method (Sackman, 1974) was utilized to validate and adjust the components of the needs assessment model drafted in Phase One. The Delphi Method is a systematic method for eliciting diverse opinions on a subject. Typically, a panel of experts is assembled and independently assesses a research topic that is identified by a researcher. The researcher serves as facilitator, collects the opinions of the panelists and moves the panelists to consensus in an iterative process. According to Sackman, a universal definition and process for a Delphi Method does not exist; there are possibly as many variants as there are Delphi researchers. For the purpose of this study, two primary Delphi attributes were maintained to contribute to authentic consensus and valid results: non-interaction of panel members and iterative polling.

The Delphi Method has been used in at least one other study related to SDL. Confessore and Confessore (1992) facilitated a Delphi Method study that sought consensus on the key literature related to SDL. In that study, 27 panelists from 5 countries who were considered reputational experts in adult education, participated on a Delphi Panel. Three iterations were conducted. In the first iteration, panelists were asked to respond to open-ended questions, which included “Please provide citations for the three most important published works that, in your judgment, should be read at the outset of one’s introduction to the field of adult self-directed learning”. In the second iteration, 23 panelists returned completed surveys which rated the original 34 citations using a Likert-type scale (1-5). The Kolmogorov-Smirnov One Sample Goodness-of-Fit Test (Siegel, 1956) was used to compare the response patterns with the theoretical distribution. Items that received a simple majority and which were not likely to be a chance distribution were included in the emerging consensus. In the third iteration, each panelist received individually structured survey forms that asked for responses to only those items for which his or her second iteration response fell outside the emerging consensus. Panelists were asked to review their second iteration responses in light of the emerging
consensus. They were given the opportunity to change their responses. In the event they chose not to change their response(s), an explanation was requested as to why they chose to remain outside the emerging consensus. The Kolmogorov-Smirnoff test was again used to determine the significance of the response patterns. The researchers included in the consensus those citations that had attracted majority support and for which the panel’s response pattern was not attributable to chance. The total number of items in the consensus was ultimately 12.

The process used to facilitate this study’s Delphi Method were similar to those of Confessore and Confessore (1992); however, there were two differences. First, unlike most Delphi Methods that utilize paper and pencil surveys which are mailed to and from panelists, this study was conducted primarily by email. Email was used because it was suggested by eight of the nine panel members. The stated reasons were ease of use, quick response capability, and its simplified record keeping feature. The second difference was the composition of the panel of experts. The Confessore and Confessore Delphi panel was comprised of “reputational experts” in the field of self-directed learning. The panelist’s expert status was determined by their attendance at a professional conference of academicians. The “experts” chosen for this panel were SBDC instructors, SBDC clients and university professors. Most adult education ISD is done by instructors (Merriam & Caffarella, 1991). Instructional design theory building and model development is usually performed by university professors. Self-directed learning and Knowles’ andragogy empower learners in part by including them in most aspects of ISD. The Delphi method iterations are more fully described in the Data Analysis section of this chapter.

Phase Two activities consisted of a Delphi Method and interviews of study participants. Phase One interviews included questioning the interviewees about their interest in being on the Delphi Panel and whether or not they had access to email. All SBDC personnel and clients voiced an interest in being on the Delphi panel. Three of the six university professors voiced interest. The SBDC personnel and clients were selected based upon their access to email. Email was used as a determining factor because of its ease of use and potential to reduce the risk of attrition prior to the conclusion of research.
Confidentiality

Each person that participated in the data collection processes, both the interviews and the Delphi Method, was assured by the researcher that all responses would remain confidential and that anonymity would be maintained in the reporting process. Each research participant read and signed, in the presence of the researcher, an “Informed Consent Form” (Appendix A). The Informed Consent Form was approved by Oregon State University’s Committee for the Protection of Human Subjects, which is subject to the guidelines of the US Department of Health and Human Services. The executed informed consent forms will be retained in the researcher’s files for three years after completion of the research, at which time they will be destroyed. This retention procedure is consistent with university policy.

Data Analysis

The following discussion describes data analysis by individually addressing each of the research questions.

Research Question 1

To address research Question 1, data collection techniques included reviews of the SDL, ISD, TNA and SBDC literature and interviews of SBDC instructors, SBDC clients and university professors.

The SDL literature review identified and discussed the philosophical assumptions underlying SDL and its principle research strands. Review of the ISD literature included its theoretical foundations, history and prominent models. The TNA literature was analyzed to determine ways of organizing assessment information and to identify tools and techniques for conducting assessments. The SBDC literature was critically reviewed and the studies were summarized.
Responses were recorded, in writing, by the researcher either during or immediately after the interviews. Subsequently, responses and conclusions were drawn regarding the appropriateness of SDL as a framework for ISD at SBDCs.

Data analysis of preliminary interview responses included categorizing the preliminary interviewee’s organizational affiliation, education, and work experience. Additionally, all the preliminary interviewees’ suggestions regarding the timing of TNA for SBDC clients, processes and products were transcribed and included in the first iteration survey provided to the Delphi panel.

Research Question 2

To address research Question 2, data collection techniques consisted of the three Delphi Method iterations and subsequent interviews of Delphi panelists. The Delphi panel was comprised of nine members: Three SBDC instructors, two former clients of SBDCs, one current client of an SBDC, a west coast university professor of business and two west coast university professors of education.

Three iterations were performed during the Delphi Method. Iteration one consisted of a survey that summarized the opinions of the interviewees regarding the timing of TNA, processes and products. The survey utilized for iteration one (Appendix D) presented the various ideas and aspects of SBM client needs assessment at SBDCs that were generated by the preliminary interviews and the researcher’s literature reviews, observations and experiences. Data analysis of the iteration one surveys consisted of listing all new ideas offered by the survey one respondents. This listing comprised survey two.

During second iteration, the participants were provided survey two (Appendix E). They were then asked to rate the value each of the 74 items for use in SBDCs using a Likert-type scale (1-5).

Data analysis of the second survey was done in two parts. Initially, means and standard deviations for each of the needs assessment ideas and aspects were calculated using the statistical software program SPSS for Windows.
The Kolmogorov-Smirnov One Sample Test for Goodness-of-Fit (Siegel & Castellon, 1988) was run to determine whether the scores in the sample could have reasonably come from a population having the theoretical distribution. This test involves specifying the cumulative frequency distribution which would occur given the theoretical distribution and comparing that with the observed cumulative distribution. The point at which these two distributions show the greatest divergence is determined. Reference to the sampling population shows whether such a large divergence is likely to occur on the basis of chance. In other words, sampling distribution indicates the likelihood that a divergence of the observed magnitude would occur if the observations were really a random sample of the theoretical distribution. The Kolmogorov-Smirnov test assumes that the distribution of the underlying variable being tested is continuous, as specified by the cumulative frequency distribution. According to Siegel & Castellon, the test is appropriate to test the goodness-of-fit for variables which are measured on the ordinal scale. The Kolmogorov-Smirnoff Goodness-of-Fit test was chosen over the chi square test, another commonly used goodness-of-fit test, because of the sample size. Siegel & Castellon state that for small samples, the chi square test cannot be used and that the Kolmogorov-Smirnoff test should be given preference.

In the third iteration, each panelist received individually structured survey forms that asked for responses to only those items for which his or her second iteration response fell outside the emerging consensus. Panelists were asked to review their second iteration responses in light of the emerging consensus. They were given the opportunity to either change their responses or maintain them. In the event they chose not to change any given response, an explanation was requested as to why they chose to remain outside the emerging consensus. The Kolmogorov-Smirnoff test was again used to determine the significance of the response patterns.
Summary of Methods

Research Design

This study is classified as a methodological study (Krathwohl, 1977) and it incorporated aspects of both formal and action research. Formal research aspects included the goal of the production of knowledge that is ultimately generalizable, an extensive review of literature and detailed planning. Action research components of this study are the anticipated contribution to the theory and knowledge base, the professional development of educators and the study’s problem solving potential.

Data Collection

The approximate time frames of the two phases and their respective activities are summarized in Table VII. Phase One activities included the literature review and personal interviews of the SBDC instructors, SBDC clients and university professors. Phase One was conducted over the period from January to February 1996. Phase Two activities included the Delphi Method and the final interviews of the SBDC instructors, SBDC clients and university professors that served on the Delphi Panel. Phase Two activities were conducted over the period of time from March, 1996 to May, 1996.
TABLE VII

DATA COLLECTION METHODS
AND TIME FRAMES
1996

<table>
<thead>
<tr>
<th>Time Frames (1996)</th>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
<th>May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Methods</td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Phase I

| Literature Review | X | X |
| Preliminary Interviews | X | X |

Phase II

<table>
<thead>
<tr>
<th>Delphi Method</th>
<th></th>
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<td>Iteration One</td>
<td>X</td>
</tr>
<tr>
<td>Iteration Two</td>
<td>X</td>
</tr>
<tr>
<td>Iteration Three</td>
<td>X</td>
</tr>
<tr>
<td>Final Interviews</td>
<td>X</td>
</tr>
</tbody>
</table>

Data Analysis

Both qualitative and quantitative methods were used to answer the research questions. A qualitative method was used to analyze research Question 1 data. This method consisted of interpreting the data collected by observations and interviews. Validity of research Question 1 data and its analysis is provided by triangulation of the multiple data sources. The sources included literature reviews, personal interviews and the researcher's observations and experiences.
A quantitative method was used to analyze the data associated with research Question 2. Descriptive statistics were used to decide which aspects and ideas of TNA should remain in the model. Statistical validity was determined by the Kolmogorov-Smirnov Goodness-of-Fit test to establish that the panel's response pattern was not attributable to chance.
CHAPTER IV

ANALYSIS AND FINDINGS

This chapter presents the analysis of the data and the research findings. The Data Analysis section describes the analysis procedures chronologically, as they occurred during Phases One and Two. The Findings section presents the results from the data analysis as they relate to each of the research questions.

Data Analysis

Phase One

During Phase One, literature reviews and personal interviews were conducted.

Literature Reviews

The literature reviews are reported in Chapter Two, which include sections on SDL, ISD, TNA and SBDCs. The survey of the literature included identifying themes of SDL and the SBDC program context. These themes are shown in Figure 3, a Venn Diagram. The themes of SDL are listed in the upper circle and the themes of the SBDC program are listed in the lower circle. The common themes are in the middle. For the purpose of this study, this diagram indicates that SDL and the SBDC program have these themes in common: Adult education, learner participation, learner responsibility for learning, practical and pragmatic focus, collaborative environment, learner-centered, and instructional system design.
Figure 3

Venn Diagram: Common Themes of
Self-Directed Learning and Small Business Development Centers

SELF-DIRECTED LEARNING
- Constructivism
- Verification Studies
- Process Studies
- Personal Attributes
- Learning to Learn

ADULT EDUCATION
- Learner Participation
- Learner Responsibility for Learning
- Practical and Pragmatic Focus
- Collaborative Environment
- Learner-Centered
- Instructional System Design

EVALUATION STUDIES
- Strategic management
- Administrative Management
- Operational Management
- Public-Private Partnership

SMALL BUSINESS DEVELOPMENT CENTERS
Preliminary Interviews

The preliminary interviews were conducted on-site at the interviewees' places of business during the months of February and March, 1996. The interview protocol was based on Tough's (1979) methodology. The preliminary interview process consisted of an initial period for introductions, a brief explanation of the purpose of the research and the interview. The Preliminary Interview Questionnaire (Appendix B) was used to conduct the interviews, which lasted approximately 60 minutes each.

Thirty nine individuals were contacted and requested to take part in the preliminary interview process of the research. Six SBDC directors were asked and all six agreed to participate. Twenty SBDC clients were asked and all 20 agreed to participate. Thirteen university professors were asked to take part in the preliminary interviews. Six agreed and seven implicitly or explicitly declined.

Nineteen preliminary interviews were conducted. Four SBDC instructors were interviewed, nine SBDC clients (four current clients and five former clients) and six professors at a west coast university. Data collected from the preliminary interviewees was transcribed during or immediately after the interviews. Data were categorized using Gordon's (1994) organizers: Organizational information, individual information and task information.

The preliminary interview participants' organizational and individual information, or profiles, are shown in Table VIII. The four SBDC instructors each had earned a Master of Business Administration degree and had in excess of three years of business management experience. The nine SBDC clients' level of educational attainment included five clients with a high school diploma, three with a four year college degree and one with a Ph.D. All the SBDC clients had at least four years of business management experience. The six university professors included four with Ph.D.s and two with other doctorates. One university professor's background included 15 years experience in business management.
Table VIII
Preliminary Interview
Participant Profiles

<table>
<thead>
<tr>
<th>Participant</th>
<th>Organizational Affiliation</th>
<th>Level of Education</th>
<th>Business Management Experience (years)</th>
<th>Adult Education Experience (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant A</td>
<td>SBDC Instructor</td>
<td>MBA</td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>Participant B</td>
<td>SBDC Instructor</td>
<td>MBA/CPA</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Participant C</td>
<td>SBDC Instructor</td>
<td>MBA</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>Participant D</td>
<td>SBDC Instructor</td>
<td>MBA</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Participant E</td>
<td>SBDC Client</td>
<td>High School</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Participant F</td>
<td>SBDC Client</td>
<td>High School</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Participant G</td>
<td>SBDC Client</td>
<td>High School</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Participant H</td>
<td>SBDC Client</td>
<td>BS</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Participant I</td>
<td>SBDC Client</td>
<td>BA</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Participant J</td>
<td>SBDC Client</td>
<td>PhD</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Participant K</td>
<td>SBDC Client</td>
<td>High School</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Participant L</td>
<td>SBDC Client</td>
<td>BA</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Participant M</td>
<td>SBDC Client</td>
<td>High School</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Participant N</td>
<td>University Professor</td>
<td>PhD</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Participant O</td>
<td>University Professor</td>
<td>EdD</td>
<td>15</td>
<td>28</td>
</tr>
<tr>
<td>Participant P</td>
<td>University Professor</td>
<td>PhD</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Participant Q</td>
<td>University Professor</td>
<td>PhD</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Participant R</td>
<td>University Professor</td>
<td>DBA</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Participant S</td>
<td>University Professor</td>
<td>PhD</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

The university professors and SBDC clients were unanimous in their endorsement of TNA. One university professor stated “TNA is one of the most valuable and least utilized educational practices.” The results of the Preliminary Interviews were categorized in three areas: Times, processes and products for TNA.

The SBDC instructors’ responses indicated that TNA was currently done prior to the commencement of training and during training. However, two of the four SBDC instructors felt that TNA could also be done at the end of and after training. All the SBDC clients and university professors agreed that TNA times ranged from before to after training.
The SBDC instructors stated that two TNA processes were currently used: 
Personal interviews, before and during training, and small group meetings during training. Both the interviewees and small group meetings were relatively unstructured.

The preliminary interview responses generated seven processes as to what might be appropriate for SBDCs:

1. personal interviews before and during training on a monthly or quarterly basis;
2. small groups discussions during SBDC classes;
3. small group discussions outside SBDC classes;
4. large group discussions during SBDC classes;
5. personal interviews at the end of and after training;
6. TNA questionnaire before training; and
7. small group discussions after training.

All SBDC instructors regularly, but not always, utilized a TNA questionnaire in their programs. Four sample copies of the TNA questionnaires (Appendix C) were collected and analyzed. The questions on the questionnaires could all be classified under the Chrisman, et al. (1990) categories: Strategic, administrative and operational management skills. Strategic management included such topics as visions, mission statements and objectives. Administrative areas included, but were not limited to, accounting, finance and personnel management. Operational issues consisted of topics such as sales, production and quality management. One SBDC instructor commented that many different TNA questionnaires are available locally and nationally.

A fourth general content area “Learning Management Skills” was added by the researcher, based on its mention in the literature and because of its recommendation by the university professors. This area is alternatively referred to as learning-to-learn (Merriam & Caffarella, 1991), self-planned learning (Tough, 1979), lifelong learning (Knowles, 1990) and meta-cognition. Although not suggested by the SBDC instructors or clients, both groups endorsed this area as important for small business managers. One
preliminary interviewee, an SBDC client, commented “I need to help my employees to be constantly learning how we can improve our business; if we stay the same we’re lost.”

**Phase Two**

Phase Two data collection procedures consisted of a Delphi Method and final interviews.

**Delphi Method**

Each of the 19 individuals who participated in the preliminary interviews was asked if they would volunteer to be on the Delphi panel. All four SBDC directors and all nine SBDC clients voiced their willingness. Three of the six university professors declined the offer, and three agreed.

The Delphi panel included the nine members profiled in Table IX. The university professors included one professor with a Ph.D. in education and two professors with other doctorates in education and business. The three SBDC clients included one current SBDC client and two former SBDC clients. It had been over three years since each of the former SBDC clients had attended the SBM training program. Length of time away from the program contributed perspective.
TABLE IX
Profile of Delphi Panel Members

<table>
<thead>
<tr>
<th>Delphi Panel Participants</th>
<th>Organizational Affiliation</th>
<th>Level of Education</th>
<th>Business Management Experience (years)</th>
<th>Adult Education Experience (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel Member 1</td>
<td>SBDC Director</td>
<td>MBA</td>
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<td>2</td>
</tr>
<tr>
<td>Panel Member 2</td>
<td>SBDC Director</td>
<td>MBA/CAP</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Panel Member 3</td>
<td>SBDC Director</td>
<td>MBA</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>Panel Member 4</td>
<td>University Professor</td>
<td>PhD</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Panel Member 5</td>
<td>University Professor</td>
<td>EDD</td>
<td>15</td>
<td>28</td>
</tr>
<tr>
<td>Panel Member 6</td>
<td>University Professor</td>
<td>DBA</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Panel Member 7</td>
<td>SBDC Client</td>
<td>PhD</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Panel Member 8</td>
<td>SBDC Client</td>
<td>High School</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Panel Member 9</td>
<td>SBDC Client</td>
<td>High School</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

During the initial iteration of the Delphi Method, panel members were emailed (eight members) or faxed (one member) a copy of Survey One (Appendix D). Survey One presented the TNA times, processes and products generated by the researcher during the literature reviews and the preliminary interviews. The nine panel members were first asked to review these TNA aspects. They were then encouraged to add and/or describe any other times or ways to conduct TNA and to offer other comments regarding this study. Their opinion regarding a scale for use on a TNA instrument was also requested. The resultant list of TNA ideas comprised 39 items.

All nine (100%) of the Delphi panel members responded to Survey One (Table X). Upon receipt of the emails and fax, analysis consisted of reviewing the additions and comments of the respondents and then amending the list to include all panel members’ suggested additions (without duplication). The list of TNA ideas and aspects increased from 39 to 74 items.

All nine of the Delphi panel members offered additions to the TNA items listed on Survey One. Five of the nine members offered additional comments regarding the Delphi panel process and Survey One. Four of the five respondents made positive
comments such as “Your compiling this info will be very helpful. We support you all the way” (Delphi Panel member seven, a SBDC former client). One of the respondents voiced serious concern regarding the research design. Delphi panel member four, a university professor, wrote “I believe you should be asking these questions from a Delphi panel whose expertise has been proven to be in the area of management of SBDCs”, and “So, I feel your concept of a Delphi has already been compromised. Who are the others responding here as Delphi members and do you have a rationale and justification for choosing us as experts? I would like to know this.”

Table X

Response Rates to Delphi Method Surveys

<table>
<thead>
<tr>
<th>Survey Number</th>
<th>Response Rate</th>
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<tbody>
<tr>
<td>1</td>
<td>100%</td>
</tr>
<tr>
<td>2</td>
<td>100%</td>
</tr>
<tr>
<td>3</td>
<td>100%</td>
</tr>
</tbody>
</table>

Note: n=9

During the second iteration, the 74 item Survey Two (Appendix E) was emailed or faxed to the Delphi panel members. The panelists were then asked to rate (using the Likert-type scale) the extent to which they agreed or disagreed that the ideas and aspects of TNA at SBDCs generated during the literature reviews, preliminary interviews and initial survey were valuable and practical for SBDCs.

Data analysis consisted of calculating means and standard deviations for all 74 TNA items on the survey using SPSS for Windows statistical software. Table XI summarizes these descriptive statistics. The mean of the 74 questions on Survey Two was 2.30. The standard deviation was 0.75.

The Kolmogorov-Smirnov Goodness-of-Fit Test was performed on each of the 74 items included on Survey Two and the distributions of the 74 items did not deviate significantly from the theoretical distribution. The Survey One responses were not likely to be a chance distribution.
### TABLE XI

Delphi Method Survey Two
Descriptive Statistics

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<tr>
<th>Survey Two Question Number</th>
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<th>Test Distribution*</th>
<th>K-S Z Value*</th>
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**note:** n=9, 74 items ranked in order of ascending means

* Kolmogorov-Smirnoff One Sample Goodness-of-Fit Test
TABLE XI, continued

Delphi Method Survey Two
Descriptive Statistics

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*note: n=9, 74 items ranked in order of ascending means,

* Kolmogorov-Smirnoff One Sample Goodness-of-Fit Test
Fifty items out of the total 74 TNA items on Survey Two were selected by the researcher and designated as part of the emerging Delphi panel consensus. The other 24 items were deleted. The selection of the items to be included in the emerging consensus was based on the fact that each of these 50 items had a mean below 2.5 on Survey Two.

During the third iteration, an individually structured Survey Three (Appendix F) was distributed to each of the nine Delphi panel members by email or fax. Each panelist was provided a list of the 50 TNA items in the emerging consensus. For each item for which their Survey Two response fell outside the emerging consensus, the participants were provided the mean of the panel and their rating. Each panelist was requested to review their responses in light of the emerging consensus and if they wished, to change their responses. If they did not wish to change their responses, they were asked to provide an explanation as to why they chose to remain outside the emerging consensus.

The number of questions for each panelist that fell outside the emerging consensus ranged from 6 to 14. Eight of the nine panelists chose to change at least one answer. Five of the nine panelists offered comments as to why they chose to not change an answer. The panelist that chose not to change any answers, a university professor, provided this statement "Do you want me to change my mind because the rest of the group doesn't have any knowledge or skill in this area?".

Data analysis of the third iteration Survey Three consisted of the same analysis performed on the second iteration survey. Descriptive statistics were calculated and each of the 50 TNA items were subjected to the Kolmogorov-Smirnoff test. Table XII summarizes these calculations.

Ten items received a mean score 2.30 on Survey Three, which was one standard deviation (0.75) below the mean of the 74 questions on Survey Two. Otherwise stated, 10 items had a mean below 1.55.
### TABLE XII

Delphi Method Survey Three
Descriptive Statistics

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* K-S: Kolmogorov-Smirnoff One Sample Goodness-of-Fit Test

**Note:** n=9, 50 items ranked in order of ascending means
TABLE XII, continued

Delphi Method Survey Three
Descriptive Statistics

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<td>2.44</td>
<td>1.24</td>
<td>normal</td>
<td>0.6463</td>
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</tbody>
</table>

Note: n=9, 50 items ranked in order of ascending means

* Kolmogorov-Smirnov One Sample Goodness-of-Fit Test

The mean of the 50 items on Survey Three was 1.77. The standard deviation of the Survey Three questions was 0.82. Thirty-four of the 50 items on Survey Three were
rated “1” or “2”, by eight of the nine panelists, meaning that they considered the item valuable and practical for TNA at SBDCs. Ten Survey Three items had a mean at least one standard deviation in excess of the mean of the 74 items on Survey Two.

In summary, the Delphi Method consisted of an iterative process that moved the participants towards consensus on TNA at SBDCs. The process is graphically displayed in Figure 4. Survey One consisted of 39 TNA items that were generated from the literature reviews and preliminary interviews. Survey Two included the Survey One items plus an additional 35 TNA items suggested by the panelists on their responses to Survey One. Fifty items on Survey Two had a mean of 2.5 or less and were designated as part of the emerging consensus. Survey Three results included 10 TNA items that had a mean at least one standard deviation in excess of the mean of the 74 items on Survey Two; 32 TNA items received a rating of 1 or 2 from 8 of the 9 Delphi participants.

Figure 4
Delphi Method Summary
Final Interviews

Final interviews were conducted with eight of the nine Delphi panelists. The panelists were provided a summary of the Delphi panel results and asked their opinions regarding the process utilized and the results. All eight of the panelists interviewed considered the results beneficial and applauded the inclusion of the three distinct groups on the panel.

Findings

This section reviews research findings from the data analysis.

Research Question 1

Is self-directed learning an appropriate framework for instructional system design at Small Business Development Centers?

Three subquestions were associated with research Question 1. The questions were answered by reviewing the pertinent literature and conducting 19 preliminary interviews.

Subquestion 1.1

What are the underlying philosophical assumptions and the research base of self-directed learning?

Constructivism is the primary philosophical assumption underlying SDL, which has been consistently recommended as a framework for use in adult education. Mezirow’s (1981) statement is representative of the adult education literature regarding
SDL: "Enhancing the learner's ability for self-direction in learning is a foundation for a distinctive philosophy of adult education" (p. 21).

Three distinct areas are included in SDL: A self-initiated process of learning, a personal attribute and a way of organizing instruction (Caffarella, 1993). Research on SDL is categorized in three areas: Verification studies, SDL process studies and the study of SDL as a personal characteristic. The area of SDL as a way of organizing instruction and the SDL research strand of SDL process studies are most pertinent to this study.

The dominant SDL themes that emerged from the SDL process literature were a learner-centered classroom, learner responsibility for learning and learner involvement in all aspects of instructional system design (Knowles, 1990), collaborative versus hierarchical roles for instructors (Garrison, 1992), SDL for advanced knowledge acquisition (Jonassen, 1990) and SDL as a widely used and recommended method for the acquisition of practical knowledge (Pratt, 1988).

Nineteen preliminary interviews with SBDC instructors, SBDC clients and university professors were conducted. Eighteen of the 19 interviewees felt that SDL was an appropriate framework for the SBDC educational setting. The SBDC instructors and clients were unanimous in their beliefs that the SBDC classroom is, or should be, a collaborative environment, that SBDC clients take responsibility for their learning and that SBDC clients seek knowledge that can be applied in their businesses.

Subquestion 1.2

What is instructional system design, what are some essential components of instructional design models and what is training needs assessment?

Instructional system design is a systematic process of planning, implementing and evaluating instructional programs (Seels & Glasgow, 1990). The components of most ISD models include: Analysis, design, development, implementation and evaluation (Seels & Glasgow, 1990). Most ISD models are teacher-centered. Self-directed learning
is a framework for a learner-centered ISD. Knowles (1990) Andragogical Process Model is an ISD that requires learner participation in all aspect of instructional programs.

Rossett (1987) describes TNA as processes for collecting information and making recommendations that will assist trainers to narrow the gap between actual and optimal performance in a designated task. Gordon's (1994) generic model offers the TNA information categories of organizational information, task information and trainee information. Rossett also suggests tools for collecting the necessary TNA information which include interviews, small groups, surveys and the Delphi Method as techniques for collecting TNA information. Training needs assessment is recommended in the literature to be done before, during and after training (Gordon, 1994).

The preliminary interviews corroborated the literature review findings. Training needs assessment was viewed as a systematic process, and inclusion of diverse opinions was suggested by all 18 persons during the preliminary interviews.

Subquestion 1.3

What are the history, research base and practices of Small Business Development Centers?

The literature reviewed included the SBDC promotional material and publications and the 12 empirical studies done at SBDCs. The SBDC research base primarily addressed program evaluation issues. Research specifically addressing SBDC instructional design or needs assessment was not found.

Six interviews with SBDC personnel provided additional detail on SBDC practices. The SBDC directors provided copies of TNA questionnaires that they have used (Appendix B). All of the items on the questionnaires could be placed in one of the three SBDC training categories suggested by Chrisman, et al. (1990): Strategic, administrative and operational management.
Research Question 2

*What are the components of a self-directed learning based model for assessing the training needs of Small Business Development Center clients in Small Business Management programs?*

Research Question 2 was broken down into the three subquestions described in the following sections.

Subquestion 2.1

*Who should be involved in the development of the needs assessment model components?*

Data necessary to draft an answer to Subquestion 2.1 was collected by reviewing the SDL, TNA and SBDC literature and by conducting 19 personal interviews of SBDC instructors (four interviews), SBDC clients (nine interviews) and university professors (six interviews) with expertise in education and/or business.

The SDL literature suggested learner involvement in all aspects of instructional design Knowles (1984). In fact, Knowles’ Andragogical Process Model specifically recommends “mutual assessment of needs” (Step 3). The SBDC promotional information and related literature indicates that SBDC instructors have traditionally been responsible for virtually all aspects of TNA.

Eighteen of the 19 preliminary interviewees agreed that university professors with knowledge of adult education, SBDC instructors and SBDC clients (both current and former) were important contributors to developing a TNA model for SBDCs that was consistent with constructivism and SDL. One interviewee, a university professor, voiced concern over whether SBDC clients have sufficient knowledge in ISD to warrant their involvement in TNA model development.
Subquestion 2.2

*When should Small Business Development Center client needs assessment be done?*

Data necessary to address Subquestion 2.2 was collected by reviewing the TNA and SBDC literature and by conducting 19 personal interviews of SBDC instructors (4 interviews), SBDC clients (9 interviews) and university professors (6 interviews) with expertise in education and/or business.

The needs assessment literature suggested that assessment be done before, during and after training programs (Gordon, 1994; Rossett, 1987). The SBDC literature did not address TNA. All nineteen individuals interviewed agreed with the SDL and TNA literature.

Subquestion 2.3

*What are the needs assessment processes and products that are valuable and practical for the Small Business Development Center Small Business Management Program?*

Data necessary to address Subquestion 2.3 was collected during the Phase One literature review and preliminary interviews, and was validated during the Phase Two Delphi Method and final interviews.

The Delphi Method included three iterations. Consensus was defined by the researcher to be consensus minus one. Thirty-four items were rated as “1” or “2” on the Likert-type scale by eight of the nine Delphi panel members. These items are listed in Table XIII and are categorized using Gordon’s (1994) training needs assessment information organizers.
Table XIII

Delphi Method Consensus Items for Needs Assessment Questionnaire Outline

<table>
<thead>
<tr>
<th>Type of Information</th>
<th>Specific Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational Information</td>
<td>Name of business</td>
</tr>
<tr>
<td></td>
<td>Legal type of organization (proprietorship, partnership)</td>
</tr>
<tr>
<td></td>
<td>Size of organization (# of employees, gross sales)</td>
</tr>
<tr>
<td></td>
<td>Years under current management</td>
</tr>
<tr>
<td></td>
<td>Type of business (major products/services)</td>
</tr>
<tr>
<td></td>
<td>Primary customers</td>
</tr>
<tr>
<td></td>
<td>Business trends</td>
</tr>
<tr>
<td></td>
<td>Primary competitors</td>
</tr>
<tr>
<td></td>
<td>Affiliations with other businesses</td>
</tr>
<tr>
<td></td>
<td>Company Mission Statement</td>
</tr>
<tr>
<td></td>
<td>Types of employees (administrative, sales, etc..)</td>
</tr>
<tr>
<td>SBDC Client Information</td>
<td>Name</td>
</tr>
<tr>
<td></td>
<td>Title/position</td>
</tr>
<tr>
<td></td>
<td>Education</td>
</tr>
<tr>
<td></td>
<td>Work experience</td>
</tr>
<tr>
<td></td>
<td>Prior small business management training</td>
</tr>
<tr>
<td></td>
<td>Previous business management experience (years and type)</td>
</tr>
<tr>
<td></td>
<td>What do you like most about your job/business</td>
</tr>
<tr>
<td></td>
<td>Describe a recent change you made and identify the factors that made you change.</td>
</tr>
<tr>
<td>Small Business Management</td>
<td>Strategic management skills</td>
</tr>
<tr>
<td>Skill Information</td>
<td>Administrative management skills</td>
</tr>
<tr>
<td></td>
<td>Operational management skills</td>
</tr>
<tr>
<td></td>
<td>Learning management skills</td>
</tr>
</tbody>
</table>

All organizational consensus items were currently in use at one or more of the SBDCs that participated in the research; however, the client items included several items not currently in use at any of the SBDCs that participated in this research. These new items are “What do you like most about your job?” and “Describe a recent change you made and identify the factors that made you change.”
The management skill information areas found to be valuable and practical by the Delphi consensus were strategic, administrative, operational and learning management skills. The strategic management, administrative management and operational management skills are consistent with Chrisman et al. (1990). An important finding of this study was the consensus reached on value of learning management skills training as an area for SBDC curriculum development.
CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The objective of this study was to develop a self-directed learning (SDL)-based best practice model for training needs assessment (TNA) of clients in the Small Business Management (SBM) program at Small Business Development Centers (SBDCs). This section summarizes the research questions, the methods and the findings.

Research Questions

The following two research questions were addressed:

1. Is self-directed learning an appropriate framework for instructional system design (ISD) at Small Business Development Centers?
2. What are the components of a self-directed learning based model for assessing the training needs of Small Business Development Center clients in Small Business Management programs?

Methods

The methods used to answer the research questions were the collection and the analysis of data.
Data Collection

Data collection was two-phased. Phase One included reviews of the SDL, ISD, TNA and SBDC literature as well as interviews of SBDC instructors, SBDC clients and university professors. Phase Two consisted of a Delphi Method and final interviews. The data collection was conducted between January and May of 1996. The Delphi Method included three iterations and three surveys. There were nine members of the Delphi panel: Three SBDC instructors, three SBDC clients and three university professors. Email was used to communicate with the Delphi panelists. Final interviews were conducted with the Delphi Method panelists to obtain their opinions regarding the consensus reached and the research design.

Data Analysis

The information obtained during the literature reviews and interviews was categorized thematically. Responses to the Delphi surveys were analyzed by computing descriptive statistics and applying the Kolmogorov-Smirnov One Sample test on SPSS for Windows statistical software. Consensus items were defined as items on Survey Three for which eight of the nine (or consensus minus one) panelists rated the item as “1” or “2”, meaning the item was valuable and practical for use in TNA at SBDCs.

Findings

Findings of the literature reviews, the preliminary interviews, the Delphi Method and the final interviews follow.
Findings from Literature Reviews

Constructivism is the primary philosophical assumption underlying SDL (Confessore & Confessore, 1992). The SDL research knowledge base consists of three strands of inquiry: Verification studies, SDL process (instructional design) studies and SDL as a personal characteristic (Caffarella, 1993). The principle themes in SDL-based instructional design are the learner’s responsibility for learning, learner power in the learning process and learner participation in all aspects of the educational programs (Garrison, 1992).

Knowles’ (1990) Andragogical Process Model is a constructivist, SDL oriented instructional system designed for adult education programs, whereas most other instructional design models are behaviorist and teacher-centered (Marsick, 1988). Knowles’ model addresses and helps answer the two research questions of this study.

Pertinent TNA literature included Gordon’s (1994) TNA organizers and Rossett’s (1987) techniques for collecting needs assessment information. Gordon’s categories are organizational information, trainee information and task information. Rossett suggests interviews, focus groups, the Delphi Method and surveys as methods for obtaining data. Gordon and Rossett recommended that assessment may be appropriate before, during and after training.

The SBDC-related empirical studies have primarily been conducted in the areas of evaluating participant reactions to training and in quantifying the results, or economic impact, of SBDC training. Few conceptual or theoretical frameworks were stated or implied in those studies.

Findings from Preliminary Interviews

Responses from the interview participants revealed that the SBDCs provide practical and pragmatic education, training and technical advice to prospective business owners and owners of existing small businesses. A collaborative learning environment was desired by both SBDC instructors and clients. Eighteen of the 19 preliminary
interviewees viewed SDL as appropriate for SBDCs. The SBDC instructors and clients felt that the learners must take responsibility for their own learning and that they should be actively involved in their educational programs.

Needs assessments of SBM clients at SBDCs were recommended to be conducted before, during and after training by the interviewees. Interviews, questionnaires and focus groups were identified as processes to conduct TNA at SBDCs. A questionnaire was suggested as the TNA tool during the preliminary interviews.

**Findings from the Delphi Method**

The Delphi panel reached consensus on 34 items concerning TNA at SBDCs. The items included various needs assessment processes and products. They suggested semi-structured interviews before and during training, a structured interview at the end of training and focus groups after training. The value of a TNA questionnaire was a consensus item. Three areas of necessary information were identified: Organizational, trainee and small business management skill. Four areas of small business skill were recommended: Strategic, administrative, operational and learning management. There was consensus that training in learning management skills should be included in the SBM curriculum at SBDCs. The finding that SBDC practitioners and clients support learning management skill training is important because such training is not currently provided at SBDCs, it is supported in the SDL literature and it was recommended by the university professors.

**Findings from the Final Interviews**

The final interviews indicated that SBDC instructors and clients valued participation in the study. All SBDC instructors stated that their participation had improved their programs. The instructors felt that the inclusion of learners and university professors in the research process provided the opportunity for them to hear other
perspectives on SBDC program ISD. The SBDC instructors found that the Delphi Method elicited opinions from learners that they would not have otherwise have had the opportunity to hear, including the SBDC clients' endorsement of learner participation in instructional design and the requests for a more structured interview process.

Conclusions

This study generated four conclusions:

1. Self-directed learning is an appropriate framework for instructional system design at Small Business Development Centers.
2. Knowles' Andragogical Process Model is an appropriate foundation upon which to design instructional systems for Small Business Development Centers.
3. A self-directed learning-based training needs assessment model that incorporates the components of Knowles' Andragogical Process Model serves the needs of clients enrolled in the Small Business Management program at Small Business Development Centers.
4. Self-directed learning-based instructional systems for graduate programs in business and adult education will prepare personnel qualified to improve Small Business Development Center and other adult education programs.

Discussion of Conclusions

The four conclusions are restated in the following sections and each is discussed in more detail.
Conclusion One

Self-directed learning is an appropriate framework for instructional system design at Small Business Development Centers.

Discussion

Self-directed learning is an appropriate framework for ISD at SBDCs because rapid societal and economic changes have affected the fundamental nature of work and management in the US. These changes suggest that we must re-think the way we provide education and training to business persons. Workplaces from the industrial revolution to the 1980s largely consisted of employees who were recruited, (re)trained to perform specific tasks, rewarded for repeatedly performing those tasks and then retired. For example, many early Ford Motor Company assembly workers spent the majority of their careers performing the same, or similar, jobs. Training consisted of instruction that was designed to teach company approved methods for optimal job performance. Frederick Taylor’s behaviorist-oriented scientific management reigned supreme in academia and the workplace well into the 1980s.

In the dynamic business environment of the 1990s, organizational development experts champion the concept of learning organizations as the hope for US businesses to remain competitive in the emerging global economy (Senge, 1990). Wheatley (1992) anthropomorphizes organizations, indicating their importance and vitality with the statement that organizations are seen as conscious entities possessing many of the properties of living systems. Senge calls for organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together. Watkins and Marsick (1996) identify seven action imperatives for building learning organizations:
1. create continuous learning opportunities;
2. promote dialogue and inquiry;
3. encourage collaboration and team learning;
4. establish systems to capture and share team learning;
5. empower people toward a collective vision;
6. connect the organization to its environment; and
7. establish leaders who model and support learning at the individual, team and organizational levels.

Watkins and Marsick's (1996) recommended actions for creating learning organizations closely resemble SDL and andragogical strategies for creating constructivist, learner-centered classrooms. For example, Watkins and Marsick's continuous learning, collaboration and the empowerment of people are part and parcel of SDL.

Small business owners are explicitly aware of the changes in their business environment and intuitively aware of the shift in organizational development theory from Taylor to Senge, and of the change in management strategies from those typified by the early Ford Motor Company to those now employed by Ben and Jerry's. They recognize the benefits, and interrelatedness, of learning organizations and SDL.

The SBDC clients interviewed in this study were unanimous in their endorsement of learning management skills training as a new training component of SBM curriculum for SBDCs. The SBDC instructors that provide information on learning management skills and who model those skills will enable SBDC clients to likewise provide information and model those skills to their respective employees.

Much confusion exists regarding the concept of learning management, or how to create learning organizations. Self-directed learning provides a framework for the instructional design of SBDC programs that will reduce this confusion. Consistent with SDL, this study indicates that learners can successfully participate and significantly contribute to the creation of an ISD model, an area that has historically been the realm of instructors, instructional designers and university professors.
The two aspects of the Delphi method used in this study that differentiate it from most Delphi Methods were the use of email and the composition of the Delphi panel. The successful participation of SBDC clients in this study is attributed, in part, to the use of email. Its ease of use, speed and simplified record keeping characteristics suggest a means for learner participation in ISD at SBDCs. Although the value of including SBDC clients on the Delphi panel was questioned by two university professors, their significant contributions to the development of the TNA model suggest that increased learner involvement in ISD is beneficial.

Conclusion Two

Knowles' Andragogical Process Model is an appropriate foundation upon which to design instructional systems for Small Business Development Centers.

Discussion

Conclusion Two emerged from the literature reviews, interviews and Delphi Method findings. Knowles' Andragogical Process model is a constructivist, SDL-oriented instructional system for adult education (Knowles, 1990). The primary difference between Knowles' instructional model and other behaviorist-oriented models is that it provides for a sharing of power between the learner and instructor. Towards this end, Knowles suggests that learners participate in all aspects of instructional design. Assessment, planning, and evaluation activities are to be mutually performed by the learners and instructors. Jonnasen (1990) recommends constructivist instructional designs for advanced knowledge acquisition. Small Business Development Center clients in the Small Business Management program are owners of established businesses that seek to acquire advanced knowledge of business management techniques.

Based on the preliminary interviews, the SBDC learning environment desired by the clients and instructors that participated in this research can be classified as
collaborative. Instructors recognized the knowledge and experience brought to the classroom by the clients; the clients often commented that a significant benefit of attending the SBDC program meetings was the opportunity to hear the opinions of fellow learners.

During the final interviews, the SBDC instructors that participated on the Delphi panel commented that the inclusion of SBDC clients on the panel was beneficial. The Delphi Method provided a non-confrontational process whereby the learners could voice opinions regarding instructional design that might not otherwise be heard. There are, no doubt, other methods for involving learners in aspects of instructional design that they do not typically participate in under the predominant behaviorist designs. This study successfully involved learners in the development of a model for training needs assessment, suggesting that Knowles recommendation for learner participation in all aspects of instructional design is appropriate and useful.

Although Knowles' model was not known to the SBDC instructors, some components of Knowles' (1990) Andragogical Process Model were evident in the practices of the SBDC instructors that participated in this study. This would not surprise Knowles (1992), who stated "I also believe that many practitioners of self-directed learning adult programs, particularly in non-traditional higher education, business and industry, adult basic education and voluntary organizations, are considerably ahead of their academic colleagues in inventing ways to implement the concept of self-directed learning in real programs" (p. 141). Examples of Knowles-oriented practices include small group discussion, practical out-of-classroom activities and the peer relationship between learners and instructors.

The SBDC program directors' educational practices encompass some, but not all, of a SDL based ISD. What is lacking in the SBM program is a comprehensive SDL-based ISD; Knowles' Andragogical Process Model forms the foundation for such an ISD.
Conclusion Three

A self-directed learning-based training needs assessment model that incorporates the components of Knowles’ Andragogical Process Model serves the needs of clients enrolled in the Small Business Management program at Small Business Development Centers.

Discussion

The development of a best practice model for assessing the training needs of clients in the SBM program at SBDCs was the objective of this study. The model is presented in Figure 5 which illustrates the integration of SDL, SBDCs, Knowles’ model and TNA. The model includes the self-directed learning context (labeled in the small box in the upper right hand corner), the seven steps of Knowles’ Andragogical Process Model (the shaded sphere) and the needs assessment process (the circle).

SBDC clients enter the Small Business Management program from a self-directed learning context. Small business owners are constantly involved in self-directed learning activities. Changing governmental regulations and customer preferences require that small business owners be continuous learners to successfully compete in today’s marketplace.

Knowles’ Andragogical Process Model forms the foundation for the ISD. Mutual Assessment of Needs is one of the seven steps in Knowles’ model. The assessment activities are integrated with other aspects of Knowles’ model such as learning plan formulation, objective formulation and evaluation.

The model illustrates that needs assessment activities are facilitated by activities conducted prior to training, during-training, immediately at the end-of-training and sometime from three to six months after training. A pre-training semi-structured interview enables the instructor and client to mutually assess training needs. This type of interview integrates the Andragogical Process Model components of climate setting,
Model for Training Needs Assessment at Small Business Development Centers

- **Knowles Andragogical Process Model**
  - Pre-Training:
    - 1. Personal semi-structured interview
    - 2. Questionnaire
  - During-Training:
    - 1. Focus groups
    - 2. Semi-structured interview
    - 3. Questionnaire
  - End-of-Training:
    - 1. Structured interview
    - 2. Questionnaire

- **Needs Assessment**
  - Post-Training:
    - 1. Focus Groups

- **Mutual Objective Formulation**
  - Helping Learners Carry Out Plan
  - Mutual Evaluation of Learning

- **Mutual Planning**
  - Climate Setting

- **Mutual Assessment of Needs**
mutual planning, mutual assessment of needs, mutual learning plan formulation and mutual objective formulation. During the pre-training interview, a needs assessment questionnaire is jointly completed by the instructor and the client.

During training, assessment procedures include a semi-structured interview and focus groups. The interview is similar to the pre-training interview, where unstructured time is followed by updating the questionnaire completed in the pre-training interview. This process uses all seven components of the Andragogical Process Model. Focus groups provide an alternate method of conducting TNA. They also strengthen interpersonal relationships between instructors and clients, and between clients. This encouragement of interdependency is in line with SDL and Knowles' model.

A structured interview immediately at the end of training is recommended. Clients and instructors jointly update and review the needs assessment questionnaire originally completed during pre-training and updated during training. This activity encourages SBDC clients to identify areas and strategies for future learning.

Focus groups are again recommended for post-training needs assessment. Focus groups enable instructors and clients to meet in small groups to identify learning needs and develop strategies for meeting those needs.

Following SBDC training, clients return to the context of self-directed learning. Ideally, the SBDC experience improves their management skills and enhances lifelong learning. For example, small business managers are subject to ever-changing government regulations. Training at SBDCs must prepare to managers to be ready learn that which is unknown today but will be critical to their success in the future.

In summary, the SDL, ISD and TNA components are interconnected. The needs assessment, learning plan preparation, implementation and evaluation of instruction is one integrated process. Each of the instructional components is linked to the desired learning outcomes.
Conclusion Four

Self-directed learning-based instructional systems for graduate programs in business and adult education will prepare personnel qualified to improve Small Business Development Center and other adult education programs.

Discussion

The SBDC instructors that participated in this study all had graduate degrees in business. The ISD used by the instructors during their early years with the SBDC program were based on, and closely resembled, the behaviorist-oriented instructional systems used by their instructors in graduate school. How we are taught affects how we teach. Knowles (1992) cautions that for self-directed learning to reach its potential administrators and faculty must be exposed to relevant SDL literature and develop SDL facilitation skills. Educators must provide multiple options for the diverse learners in today’s adult classrooms. SBDC instructor involvement, as learners, in SDL-based graduate business classrooms will improve their development of SDL-based curricula.

This conclusion is also extended to instructional systems for learners in graduate adult education programs. Graduate adult education programs such as Masters in Training and Development often prepare individuals to work with adults in vocational settings. Exposure to SDL-based instructional systems during these graduate programs will enhance the ability of future adult educators to facilitate SDL-based programs, improve ISD and subsequently improve adult education and training.

Recommendations

Recommendations are presented in three areas: Recommendations for Small Business Development Center programs, recommendations for developers of graduate
programs in business and adult education and recommendations for future research. Each of the three areas of recommendations are also discussed.

**Recommendations for Small Business Development Center Programs:**

1. Develop a comprehensive Andragogical Process Model-based instructional design.
2. Develop curricula for learning management skills consistent with self-directed learning and learning organization concepts for the small business management program.
3. Implement the training needs assessment model developed by this study.

Knowles’ Andragogical Process Model provides a foundation for all aspects of instructional system design, not just the needs assessment component investigated in this study. Extension of Knowles’ concepts to planning, instruction and evaluation are recommended. This study demonstrates that learners have the interest and ability to successfully participate in instructional system design. The inclusion of learners in all aspects of instructional system design at Small Business Development Centers is recommended. Several alternatives exist for integration of Knowles’ model: A comprehensive approach that addresses all instructional components, or one that addresses the components individually. This study investigated only the needs assessment component due to the time constraints of the participants. There may be a group of Small Business Development Center learners and instructors with sufficient time and interest to warrant a more comprehensive approach.

Learning management, or learning-to-learn, curricula was endorsed by all research participants. In particular, the learners that were interviewed voiced strong interest in learning skills during their training that could in turn be modeled for their employees. Curricula is emerging in the learning-to-learn and learning organization literature. Adaptation of this curricula for use in the small business environment is recommended for Small Business Development Center program developers.
Implementation of the training needs assessment model developed from this study is recommended. The Delphi panelists reached consensus that the 34 items included in the model were valuable and practical for uses at Small Business Development Centers. Implementation of the model for training needs assessment will provide an opportunity to fine tune the model to specific programs and to improve education and training. Barriers to implementation can also be noted and addressed. One such barrier that emerged during this study was the time constraint of many SBDC instructors. This constraint may be mitigated by the involvement of university professors with research interests and graduate students seeking internship opportunities.

Recommendation for Developers of Graduate Programs in Business and Adult Education:

1. Develop curricula for learning management skills consistent with self-directed learning and learning organization concepts for graduate school programs in business and adult education.

Learning management skills, also known as learning-to-learn and learning organization skills, are emerging in the literature as a possible way for organizations to prosper during times of change. The acquisition of such skills was of interest to all research participants, including the instructors. All SBDC instructors involved in this study had graduate business degrees. Graduate programs in business and adult education are appropriate settings to teach learning management skills. Development of curricula to teach these skills in business and adult education programs is recommended.

Recommendations for Future Research

1. Develop a self-directed learning-based needs assessment questionnaire for the Small Business Management program.

2. Test the best practice needs assessment model developed by this study.
3. Conduct self-directed learning-based action research that is instructional system
design-related that involves Small Business Development Center instructors and
clients and university professors.

This study developed a model for training needs assessment of clients at Small
Business Development Centers. A key aspect of the model is a needs assessment
questionnaire. Findings from the study suggested that information be collected on the
organization, the trainee and the training subject matter. Within each of these areas,
specific items for inclusion were recommended. However, additional research is needed
to complete the development of such a questionnaire.

Once the questionnaire is developed the training needs assessment model should
be tested. A pilot test involving one or two Small Business Development Centers is
recommended, followed by broader testing. The testing will enable identification of
barriers to implementation and, with proper empirical controls, will establish the model’s
efficacy.

Action research provides an excellent opportunity for university professors to
collaborate with small business management instructors at Small Business Development
Centers. University professors benefit by engaging in research with practical applications
and small business management instructors benefit by improved instructional system
design. Consistent with self-directed learning, clients are willing to actively participate in
the research process and their involvement is invaluable. Self-directed learning provides
the framework for Small Business Development Centers, graduate programs in business
and adult education, and for further research to help bridge the theory-practice gap by
improving instructional system design. Ultimately, this will better prepare clients in
small business management programs to compete in the challenging global economy.
REFERENCES


APPENDICES
APPENDIX A

Informed Consent Form
To: Research Participant
From: Glenn Good, Oregon State University
RE: Informed Consent: Participation in Needs Assessment Research Project

You are invited to participate in a research project. This study will create a model for assessing the training needs of clients at Small Business Development Centers (SBDCs). The model will be derived from self-directed learning principles, relevant needs assessment models and the opinions of the SBDC personnel, SBDC current and/or former clients and adult education experts, such as yourself, who are being asked to participate in this research. The research investigator will:

1. review the self-directed learning, needs assessment and SBDC literature;
2. conduct preliminary interviews with SBDC personnel, current and/or former clients of SBDCs, and adult learning experts;
3. draft an initial needs assessment model;
4. facilitate a Delphi panel to validate and/or adjust the model (panelists will be drawn from interviewees referred to in #2 above);
5. conduct follow-up interviews with Delphi panel members;
6. propose a model for needs assessment at SBDCs.

The requirements for your participation are to agree to a preliminary interview with the research investigator and to participate, if requested and you are willing, in the Delphi technique and a follow-up interview. During the preliminary interview, an estimated one half hour, demographic information and opinions on needs assessment at SBDCs will be collected from the interviewees. The Delphi technique will consist of a panel of experts that participate in three iterations (paper exercises conducted via email, fax, regular mail or phone, at each panelist's convenience) of approximately one week, each. During the follow-up interview, also estimated at one half hour, feedback on needs assessment at SBDCs and the study's research design will be obtained.

There are no foreseeable risks for the participants. Only the investigator and his supervising professor will have access to the data. Confidentiality is assured because no names will be used in the research documents or in the report of this project.

The outcome of this study may be useful for those who develop adult education theory, for those make decisions about small business management curriculum at SBDCs and for those who participate in SBDC programs.

Your participation is voluntary and you may withdraw at any time. In consideration of your time and willingness to share your expertise, funds have been obtained that will provide consideration to the following participants:

- SBDCs: SBDCs with personnel participating on the Delphi Panel will be granted $250 for use as a scholarship fund for their SBDC program;
- SBDC clients (current and/or former): SBDC clients that serve on the Delphi Panel will be awarded $50 at the commencement of the first iteration of the Delphi technique and an additional $50 at the end of the follow-up interviews.

Questions about this research should be directed to Dr. Larry Kennicke, Professor of Education at Oregon State University, at (541)737-6407; or Glenn Good, research investigator, at (541)737-6435.

My signature below indicates my willingness to participate in the preliminary interview and, if requested and I am willing, in the Delphi Technique and follow-up interviews. I understand that my name will not be used in any research documents and that confidentiality of all information I provide will be maintained.

__________________________
Signature

__________________________
Date
APPENDIX B

Questionnaires for Interviews
Preliminary Interview Questionnaire

Interview Date:
Interview Time:
Person Interviewed:
Place of Interview:

Organizational
   Name of organization:
   Type of Organization:

Personal
   Name:
   Address:
   Phone:
   FAX:
   Email:
   Education:
   Work History: Small Business Management experience-
                 SBDC experience-
                 Adult Education experience-

Needs Assessment Processes

Needs Assessment Questionnaire

Willing to be on the Delphi Panel: yes no
APPENDIX C

Sample Needs Assessment Questionnaires
### BUSINESS ASSESSMENT

**Client Name** ________________________________  
**Business Name** ________________________________  
**Date** ____________________

Instructions: For each question, check the description that best describes the client's level of skill, ability and/or knowledge:

1 = No knowledge of subject.  
2 = Basic knowledge of subject - not using.  
3 = Adequate knowledge - not using regularly.  
4 = Good grasp - using it to advantage.  
5 = Not applicable to business.

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<th>COMMENTS</th>
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<td>D. Credit Policy and Collection Procedures</td>
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<td>F. Tax Reports</td>
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BUSINESS ASSESSMENT QUESTIONS

PLANNING
A. Let's review a copy of your business plan?
B. Describe your business mission.
C. What are your business/personal goals/objectives?

MARKETING
A. What type of market research do you do?
B. How did you develop your customer profile?
C. Who are your competitors? Where are they located?
D. How often do you update your marketing plan?
E. What is your process to evaluate your pricing strategy?
F. What does your sales plan look like?
G. What is your current level of sales?
G. Are you satisfied with your current level of sales?
G. What is your plan to increase the current level?
H. Outline your advertising and promotional efforts?
H. How do you evaluate the effectiveness of your advertising and promotional efforts?
I. What is your customer service philosophy?
I. How do you implement your philosophy?
I. How do you determine customer need?

FINANCIAL SKILLS
A. Will you be applying for additional financing in the near future?
B. Who projects your cash flow needs?
B. Describe your cash flow position?
C. Do you prepare an annual budget?
D. What is your credit policy?
D. Describe your collection procedures.

E. Who does your recordkeeping?
F. When do you make your payroll deposits?
F. Are you current with those deposits now?
G. How do you use your balance sheets?
H. How do you use your income statements?
H. Are your financial statements prepared monthly, quarterly, or annually?
I. Who analyzes your financial statements?
J. What is your debt to equity ratio?

MANAGEMENT SKILLS
A. How are problems solved within your organization?
B. How is information given to employees?
C. How are business decisions made that directly affect the operation?
D. Explain your organizational structure?
E. Do you negotiate terms with your suppliers?
F. Describe your relationship with your employees/customers SUPPLIERS?
G. Do you have written job descriptions for each position?
H. Do you have an employee manual? Does every employee receive a copy?
I. How would you describe your leadership style?
J. How do you organize your day?

COMPUTER SKILLS
A. Word processor
B. Database
C. Spreadsheet
D. Accounting
INITIAL SELF EVALUATION

This is for your information and will not be used to determine entry into the program.

Rate the following from (1) non-existent through (10) fully implemented. Please make comment.

1. **Annual Planning:**
   Owner sets personal and business goals, has a clearly defined mission statement and vision statement.
   Comments________________________

2. **Financial Controls:**
   Business has an appropriate and function bookkeeping system that is used for tax reporting and for internal decision making.
   Comments________________________

3. **Marketing Management:**
   Customer, Product, Geographic Scope, Competition and Channel are clearly defined. Sales volume is adequate. Company prepares and annual written marketing plan that is known by all the employees.
   Comments________________________

4. **Personnel Management:**
   Employer has a written personnel document explaining their mission, job descriptions, compensation policies and pertinent personnel procedures.
   Comments________________________

5. **Leadership and Communication Skills:**
   Business owner understanding stands the basic principles of managing people.
   Comments________________________
6. **Operation Management:**
*Business owner understands and uses systems for scheduling, purchasing, operations, quality control, and shipping.*
Comments:__________________________________________

7. **Business Transitions:**
*Business owner has implemented a business continuation plan. He has the understanding of the need to plan for expansion and business succession.*
Comments:_________________________________________
1995
BUSINESS MANAGEMENT PROGRAM

MANAGEMENT ASSESSMENT
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<th>Date</th>
<th>Name of Business</th>
<th>Name of Owner/Manager completing this form</th>
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<td>Supervisory</td>
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<th>Year</th>
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<tr>
<td>1994 Gross Sales (or latest full year)*</td>
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<td>1994 Net Profit (or latest full year)*</td>
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<tr>
<td>1994 Payroll (or latest full year)*</td>
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* Estimates will suffice
Strict confidentiality will be maintained
What do you feel are your three most pressing problems at this time?

Rank in order of importance:

1.

2.

3.

What do you think is the reason for these problems?
What are your realistic expectations as to how this Program can help you to deal with these mentioned problems?

(please use reverse side if you need more space)
How satisfied are you with your accomplishment of the following?

KEY  

vs = very satisfied, s = satisfied, ds = dissatisfied, vds = very dissatisfied

1. FINANCE/ACCOUNTING

(a) Financial Statements
(e.g. monthly P & L Account)  

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Remarks

(b) Budgeting  

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Remarks

Have you a monthly/quarterly budget at the moment?  

Yes  No

(c) Forecasting Cash Flow  

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Remarks

How often do you do a cash forecast?
(d) **Controlling Credit**

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Remarks

Do you have a credit control report every month/quarter?  

___Yes  ___No

(e) **Costing**

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Remarks

Do you formally cost each product/service?  

___Yes  ___No

(f) **Evaluating Financial Statements**

(e.g. use of key financial ratios, etc.)

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Remarks

Do you use your financial statements for management decisions?  

___Yes  ___No
### (g) Financing
The way the business is financed

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Remarks

### (h) Record Systems
(e.g. invoicing, creditors, ledger, etc.)

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Remarks

### (i) Other (please specify)

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Remarks
How satisfied are you with your approach to the following:

2 MARKETING

(a) **Selling Techniques, etc.**

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Remarks

(b) **Setting Sales Targets**

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Remarks

Do you have a sales target? ___Yes ___No
By month/quarter/year

(c) **Pricing**

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Remarks

(d) **Advertising and Promotion**

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Remarks
(e) Finding New Customers

Remarks

(f) Analyzing Sales

Remarks

Do you analyze sales... by product? Yes No
by customer? Yes No

(g) Forecasting Sales

Remarks

(h) Finding New Products/Services

Remarks
(i) **Exporting**

Remarks

---

(j) **Researching Markets**

Remarks

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(k) **Managing Sales Staff**

Remarks

---

(l) **Other (please specify)**

Remarks
How satisfied are you with your approach to the following?

3. **OPERATIONS/PRODUCTION**

   (a) **Purchasing Materials**

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   Remarks

   (b) **Controlling Inventory**

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</table>

   Remarks

   (c) **Planning and Controlling Operations/Production**

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</table>

   Remarks

Do you have a formal system of production control?  ____Yes  ____No
(d) **Business/Factory Layout**

Remarks

(e) **Work Methods**

Remarks

(f) **Productivity**

Remarks

(g) **Quality Control**

Remarks

(h) **Other (please specify)**

Remarks
How satisfied are you with your approach to the following?

4. PERSONNEL

(a) Interviewing and Selecting Staff

Remarks

(b) Training and Developing Your Staff

 Remarks

(c) Setting Wage and Salary Structures

Remarks
(d) **Establishing Incentive/Bonus Plans**

Remarks

(e) **Reviewing Subordinates Performance and Giving Feedback**

Remarks

(f) **Handling Governmental Regulations**

Remarks

(g) **Other (please specify)**

Remarks
5. **GENERAL MANAGEMENT**

(a) **Planning for the Future**  
(e.g. general direction, setting targets, assessing the business climate)  

Remarks

---

(b) **The way the Business is Organized**  
(e.g. management structure, allocation of responsibility)  

Remarks

---

(c) **Motivating Staff**

Remarks

---

(d) **Using Management Information**  
(receiving and using information)  

Remarks

---

(e) **Other (please specify)**

Remarks

---
How satisfied are you with your skills in the following areas:

A. Delegating

B. Managing Your Time

C. Negotiating

D. Handling Delicate Personnel Problems

E. Solving Problems

F. Selling

G. Running Meetings

H. Other (please specify)

Which are the three most important skills to you (of the above) in order of priority?

1. 

2. 

3. 
MANAGEMENT AUDIT
(3 HOUR CRITICAL REVIEW)
### BASIC PLANNING

<table>
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<th></th>
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<th>IF NO..</th>
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<td></td>
<td></td>
<td>Very</td>
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<td>Imp</td>
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<td>Not</td>
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</table>

1. **Has a very defined mission.**
   - A. Has a written mission statement
     - yes ___ no ___
   - B. Company is carrying out the mission
     - yes ___ no ___
   - C. Mission statement is modified when necessary
     - yes ___ no ___
   - D. Employees understand and share in the mission
     - yes ___ no ___

2. **Has a written sales plan.**
   - A. Market niche has been identified
     - yes ___ no ___
   - B. Develops new product lines when appropriate
     - yes ___ no ___
   - C. Intended customers are being reached
     - yes ___ no ___
   - D. Sales are increasing
     - yes ___ no ___

3. **Has an annual budget**
   - A. Uses the budget as a flexible guide
     - yes ___ no ___
   - B. Uses the budget as a control device
     - yes ___ no ___
   - C. Compares actual against budget expenditures
     - yes ___ no ___
   - D. Takes corrective action when expenses are over budget
     - yes ___ no ___
   - E. Owner prepares budget
     - yes ___ no ___
   - F. The budget is realistic
     - yes ___ no ___

4. **Has a pricing policy**
   - A. Products or services are competitively priced
     - yes ___ no ___
   - B. Provides volume discounts
     - yes ___ no ___
   - C. Prices are increased when warranted
     - yes ___ no ___
   - D. There is a relationship between pricing changes and sales volume
     - yes ___ no ___
   - E. New prices are placed on last-in goods when the price on old stock gets changed
     - yes ___ no ___
### GENERAL BUSINESS PRACTICE

1. Has bookkeeping system: Single entry ________
   Double entry ________

   - **A. Prepares own books**
     - a. Understands the how & why
     - b. Prepares own financial statements

   - **B. Pays for bookkeeping services**
     - a. Understands financial statements
     - b. Has taxes done by bookkeeper
     - c. Has compared cost for bookkeeper with that of CPA

2. Reconciles bank statements monthly

3. Keeps income & expense statements accurate and prepares statements monthly

4. Makes monthly deposits for federal withholding and social security

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>A. Understands form 941</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>B. Makes deposits on time to avoid penalties</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>C. Provides W-2 information</td>
<td>yes</td>
<td>no</td>
</tr>
</tbody>
</table>
5. Has a credit policy
   A. Ages billing system monthly
   B. Late payment from customers
   C. Bad debts written off
   D. Good collection policy
   E. Has a series of increasingly pointed letters
   F. Has VISA, Master charge, etc. system
   G. Emphasizes cash discounts

   yes ___ no ___

6. Files all tax returns in a timely manner
   A. Considers tax implications of equipment early
   B. Considers buy vs. lease possibilities
   C. Considers possible advantages/disadvantages of incorporation/sub chapter 5
   D. Does not pay tax penalties (federal, state, sales)

   yes ___ no ___
## FINANCIAL PLANNING & LOAN PROPOSALS

### IF NO.

<table>
<thead>
<tr>
<th></th>
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<th>Not Imp</th>
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<tbody>
<tr>
<td>1. Has adequate cash flow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Prenumbered cash receipts are monitored &amp; accounted for</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>B. Checks are deposited properly each day</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>C. Customer invoicing is done promptly (within two working days)</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>D. Collections are received within 60 days</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>E. Takes advantage of cash discounts</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>F. Disbursements are made by prenumbered check</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>2. Projects cash flow needs</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>A. Meets payroll without problems</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>B. Money is set aside for expansion, emergencies &amp; opportune purchases</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>C. Uses short term financing when needed</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>D. Has line of credit established with bank</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>3. Understands the role of financial planning in today’s highly competitive lending markets</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>A. Has a personal resume</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>B. Has personal financial statement prepared</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>C. Has a written business plan</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>D. Has a source &amp; use of funds statement (past two years and projections for next two years)</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>E. Has accurate balance sheet (past two years and projection for next two years)</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>F. Has a good working relationship with banker</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>G. Strong debt to equity ratio (1:2/1:1)</td>
<td>yes</td>
<td>no</td>
</tr>
</tbody>
</table>
## SALES & MARKETING

1. Knows exactly what the business is
   - A. Knows exactly who the customer is [ ] [ ]
   - B. Potential customers know about the business [ ] [ ]
   - C. Location is appropriate for the business [ ] [ ]
   - D. Has the market clearly defined [ ] [ ]

2. Knows competitors and their location
   - A. Knows how prices compare to competition [ ] [ ]
   - B. Knows how the competition is regarded [ ] [ ]
   - C. Uses census data for strategic marketing [ ] [ ]
   - D. Knows county sales patterns [ ] [ ]

3. Treats customers courteously
   - A. Listens carefully to customer's concerns, complaints and suggestions [ ] [ ]
   - B. Provides quick reliable service to customers [ ] [ ]
   - C. Is considered knowledgeable by customers [ ] [ ]
   - D. Follows appropriate housekeeping procedures for the business [ ] [ ]

4. Is aware of customer needs
   - A. Requests feedback from customers [ ] [ ]
   - B. Monitors sales receipts [ ] [ ]
   - C. Compares sales receipts to previous years [ ] [ ]
   - D. Accounts for seasonal variations [ ] [ ]

5. Needs to increase sales volume
   - A. Has a sales plan [ ] [ ]
   - B. Meets sales goals [ ] [ ]
   - C. Makes effective sales presentations [ ] [ ]
   - D. Uses a follow up file on prospects [ ] [ ]
   - E. Can close sales effectively [ ] [ ]
ADVERTISING & PROMOTION

1. Has advertising and promotion plan
   A. Has an advertising budget
   B. Advertises monthly
   C. Advertises weekly
   D. Has a promotional calendar

   yes ___ no ___

   IF NO.
   Very Imp
   Not Imp

2. Utilizes effective advertising and promotion
   A. Advertises in the yellow pages
   B. Uses newspaper and shoppers
   C. Uses radio and television
   D. Obtains no-cost or low-cost media coverage

   yes ___ no ___

3. Uses effective merchandising techniques
   A. Relates display space to sales potential
   B. Uses vendor promotional aids
   C. Knows traffic flow patterns
   D. Keeps facilities clean

   yes ___ no ___

4. Evaluates advertising and promotional efforts
   A. Sales increase with advertising
   B. Sales increase after special promotion
   C. Advertising is reaching intended market

   yes ___ no ___
### PERSONNEL

1. Employees know what is expected of them
   - A. Employees have only one supervisor
   - B. Supervisor has authority commensurate with responsibility
   - C. Employees volunteer critical information to their supervisor
   - D. Employees are using their skills on the job
   - E. Employees feel adequately trained

2. Each employee has a job description
   - A. Employees can accurately describe what they do
   - B. Employees do what is expected
   - C. Work load is distributed equitably
   - D. Employees receive feedback on performance
   - E. Employees are rewarded for good performance
   - F. Employees are familiar with company policies
   - G. There is a concise policy manual

3. Preventive discipline is used when appropriate
   - A. Employees are informed when performance is below standard
   - B. Unexcused absences are dealt with immediately
   - C. Theft prevention measures are in place

4. Conducts regular employee meetings
   - A. Employees' ideas are solicited at meetings
   - B. An agenda is given to employees prior to the meeting

<table>
<thead>
<tr>
<th>IF NO..</th>
<th>Very</th>
<th>Not</th>
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yes | no | Imp | Imp
APPENDIX D

Delphi Method Survey One
March 26, 1996

Survey 1

Thanks for your willingness to be a member of my Delphi panel of experts. The Delphi panel process is designed to provide a non-confrontational environment in which diverse views on a topic may be elicited and receive consideration on the extent to which others agree or disagree with those views. In this case, the topic is assessing the training needs of business development center clients. Our panel consists of business center clients, business center directors and adult educators. Contributions and responses of the panel members will not be identified by source to anyone but the research managers.

I’ll conduct three separate surveys of the panel members. This first survey presents my findings from reading related literature and interviewing people and asks you some open-ended questions. The second survey will ask you to rate the views generated in the first survey. The third survey will seek your reactions to only those items for which your second survey response fell outside the emerging consensus.

Your opinion is important to me. Please answer the questions below and return your responses to me as quickly as possible. In the event you have any questions, please contact me at any of the following numbers:

Phone: (541)737-6435
FAX: (541)752-6712
Email: goodg@ccmail.orst.edu

Assessing client training needs at small business development centers (SBDCs) can be described as collecting different kinds of information in different ways and times, for the purpose of facilitating the learning of small business management skills. My review of the related literature and personal interviews generated the following times and ways to collect information. Please add and/or describe any other times or ways you feel may be appropriate for SBDC personnel and business owners to assess training needs. Your comments on the times and ways I’ve listed are also encouraged.

I. Times and Ways to Collect Information
   A. Pre-training
      1. personal interview (SBDC personnel and small business owner)
      2. questionnaire
      3. other:

      comments:

   B. During training
      1. personal interview/counseling session (SBDC personnel and small business owner)
         monthly   yes or no
         quarterly yes or no
      2. questionnaire (same questionnaire as in pre-training section above)
         monthly   yes or no
         quarterly yes or no
      3. small group discussions during SBDC class
         monthly   yes or no
         quarterly yes or no
      4. small group discussion outside of SBDC class
         monthly   yes or no
         quarterly yes or no
      5. large group discussion during SBDC class
monthly  yes or no
quarterly yes or no

6. other

comments:

C. End-of-training
1. Personal interview/counseling session
2. Questionnaire (same questionnaire as in pre-training & during training sections above)
3. small group discussion outside of SBDC class
4. large group discussion during SBDC class
5. other

comments

D. Post-training
1. survey
2. questionnaire (same questionnaire as in pre-training & during training sections above)
3. other

comments

The types information to be collected generated in the literature review and personal interviews are summarized in the categories and subcategories listed below. Please add and/or describe any other times or types of information you feel may be appropriate for SBDC personnel and business owners to collect. Your comments on the types of information I've listed are also appreciated.

II Types of Information
A. Organizational Information
1. name of business
2. type of organization (proprietorship, partnership...)
3. size of organization (# of employees, gross sales)
4. years under current management
5. other

comments:

B. SBDC Client Information
1. name
2. title/position
3. education
4. work experience
5. other

comments

C. Small Business Management Skills Information
1. strategic management skills (mission statements, objectives, business strategies)
2. administrative management skills (legal, risk, accounting, finance, computers)
3. operational management skills (production, sales)
4. learning management skills (time management, facilitating continuous learning for employees, encouraging collaboration, modeling learning skills, information filtering)
5. other:
Most SBDCs use a questionnaire to collect the types of information listed above. The questionnaires usually ask the prospective clients to rate their management skills using a scale. Several scales are presented below. Please mark the scale you feel to be most appropriate. Feel free to modify a scale to improve it, or offer an entirely different scale.

III Scales

A.
1 no knowledge/awareness
2 basic knowledge/some awareness: not using
3 adequate knowledge: not using regularly
4 expert: using knowledge to advantage
5 not applicable to business

comment

B.
very dissatisfied
dissatisfied
satisfied
very satisfactory

comment

c.
1-10 (1 is non-existant, 10 is fully implemented)

comment

d. other

That concludes the first survey. Please email, fax or mail this survey to me by Tuesday, April 2, 1996. After I have received and analyzed the responses to this survey, I will compile a list of all responses and return them to you a couple of days later with some additional instructions.

Thanks for your help!!!

Glenn

fax: < 541 > 752-6712
phone: 737-6435
APPENDIX E

Delphi Method Survey Two
Survey 2

Thanks for your responses to Survey 1. Many ideas/aspects of client needs assessment at Small Business Development Centers (SBDCs) have now been generated during my review of the literature, interviews of SBDC instructors/clients and adult educators, and Survey 1.

The purpose of my research is to design a model for assessing client needs at SBDCs that is consistent with a dominant theory in adult education (self-directed learning) and that is valuable and practical for SBDCs. Survey 2 asks you to rate the extent to which you agree or disagree on which of our ideas/aspects should, or should not, be included in the needs assessment model I am developing.

Rate each of the needs assessment ideas/aspects listed below using the following scale. For example, if you strongly agree that pre-training unstructured interviews should be used by SBDCs, write a 1 by it, if you strongly disagree, write a 5 by it. Remember, if you feel an idea/aspect should be used by SBDCs it should be both valuable and practical. Please return your answers to me by Wednesday, April 10, 1996.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>

I Times and Ways to Collect Information

A. Pre-training

1. Unstructured interview: SBDC person and SBDC client, face to face
2. Structured interview: SBDC person verbally asks questions prompted by questionnaire, face to face
3. Semi-structured interview: unstructured time followed by face to face verbal questions (#1 and #2)
4. Questionnaire only: completed in writing by SBDC client (paper and pencil type)
5. Semi-structured interview: unstructured time followed by written questionnaire (#2 and #4)
6. Unstructured interview (face to face or phone) by SBDC person with SBDC client’s banker and/or accountant
7. Written questionnaire completed by SBDC client’s banker and/or accountant

B. During training

8. Unstructured personal interview/counseling: SBDC person and SBDC client, face to face
9. Structured interview/counseling: SBDC person verbally asks questions prompted by questionnaire, face to face
10. Semi-structured personal interview/counseling: unstructured followed by verbal questions (#8 and #9)
11. Questionnaire only: completed in writing by SBDC client (paper and pencil type)
12. Semi-structured personal interview: unstructured time followed by written questionnaire (#9 and #11)
13. Monthly small focus group discussions during SBDC class (SBDC instructor facilitated)
14. Monthly small focus group discussions during SBDC class (outside facilitator)
15. Quarterly small focus group discussions during SBDC class (SBDC instructor facilitated)
16. Quarterly small focus group discussions during SBDC class (outside facilitator)
17. Quarterly small focus group discussion outside of SBDC class (without SBDC instructor)
18. Monthly large group discussion during SBDC class (SBDC instructor facilitated)
19. Monthly one-one interviews of SBDC clients by SBDC clients
20. Quarterly one-one interviews of SBDC clients by SBDC clients
21. Monthly e-mail questionnaire of SBDC clients
22. Quarterly e-mail questionnaire of SBDC clients

C. End-of-training
23. Unstructured personal interview/counseling: SBDC person and SBDC client, face to face
24. Structured interview/counseling: SBDC person verbally asks questions prompted by questionnaire, face to face
25. Semi-structured personal interview/counseling: unstructured followed by verbal questions (#8 and #9)
26. Questionnaire only: completed in writing by SBDC client (paper and pencil type)
27. Semi-structured personal interview: unstructured time followed by written questionnaire (#9 and #11)
28. Small focus group discussions during SBDC class (SBDC instructor facilitated)
29. Small focus group discussions during SBDC class (outside facilitator)
30. Large group discussion during SBDC class (SBDC instructor facilitated)
31. One-one interviews of SBDC clients by SBDC clients
32. E-mail questionnaire of SBDC clients

D. Post-training
33. Personal interview
34. Interview by phone
35. Questionnaire sent by mail
36. Questionnaire sent by e-mail
37. Informally
38. Small focus groups

II Types of Information
A. Organizational Information
39. Name of business
40. Type of organization (proprietorship, partnership, family...)
41. Size of organization (# of employees, gross sales)
42. Years under current management
43. Type of business (major products/services)
44. Primary customers?
45. Business trends?
46. Primary competitors?
47. Affiliations with other businesses?
48. Company Mission Statement
49. Types of employees (administrative, sales, etc...)

B. SBDC Client Information
50. Name
51. Title/position
52. Education
53. Work experience
54. Prior small business management training
55. Memberships in business related organizations
56. Previous business management experience (years and type)
57. Long term personal goals
58. Long term business goals
59. Preferred management/leadership style?
60. What do you like most about your job/business?
61. What drives you batty in your job/business?
62. How do you learn best?
63. Describe a recent change you made and identify the factors that made you change.

C. Small Business Management Skills Information
64. A blank sheet of paper is provided the SBDC client and they are asked to list their training needs.
65. Strategic management skills (mission statements, objectives, business strategies)
66. Administrative management skills (personnel, legal, risk, accounting, finance, computers)
67. Operational management skills (production, marketing)
68. Learning management skills (time management, facilitating continuous learning for employees, encouraging collaboration, modeling learning skills, information filtering, people skills, communications)

III Scales (just rate each scale 1-5)
69. Scale 1: Rate your knowledge or skill in each of the following areas using the scale below:
   1  no knowledge/awareness
   2  basic knowledge/some awareness: not using
   3  adequate knowledge: not using regularly
   4  expert: using knowledge to advantage
   5  not applicable to business

70. Scale 2: Rate your knowledge or skill in each of the following areas using the scale below:
   very dissatisfied
dissatisified
satisfied
very satisfactory

71. Scale 3: Rate your knowledge or skill in each of the following areas using the scale below:
   1  very satisfied
   5  very dissatisfied

72. Scale 4: Rate your knowledge or skill in each of the following areas using the scale below:
   1-10 (1 is non-existent, 10 is fully implemented)

73. Scale 5: Rate your knowledge or skill in each of the following areas using the scale below:
   draw smiley faces (smiley for approval, no expression for neutral, downturned mouth for disapproval)

74. Scale 6. Describe your knowledge or skill in each of the following areas using not more than three words

That concludes the second survey. Please email, fax or mail this survey to me by Wednesday, April 10, 1996. After I have received and analyzed the responses to this survey, I'll send you the third and final survey with some additional instructions.

Thanks for your help!!!

Glenn
fax: < 541> 752-6712
phone: 737-6435
APPENDIX F

Delphi Method Survey Three
April 16, 1996

TO: Glenn Good
FROM: Glenn Good
FAX: (541)752-6712
email: goodg@ccmail.orst.edu
phone: (541)737-6435

Thanks for your responses to Survey 2.

The purpose of my research is to design a model for assessing client needs at SBDCs that is consistent with a dominant theory in adult education (self-directed learning) and that is valuable and practical for SBDCs. Survey 2 asked your opinion which of the 74 ideas/aspects (generated in our interviews and on Survey 1) should, or should not, be included in the needs assessment model.

I calculated means, or averages, for each of the 74 questions on Survey 2. Those questions on Survey 2 with means equal to or less than 2.5 have been retained in my needs assessment model and are listed below. Those with means in excess of 2.5 have been deleted.

The items for which your response fell outside the emerging consensus are numbers 2, 9, 13, 24, 24, 28 and 33 in the list below. The mean of the panel is noted, as is your Survey 2 rating.

Please review your Survey 2 responses for numbers 2, 9, 13, 24, 24, 28 and 33 in light of the emerging consensus. If you wish, change your response to a new rating using the scale below (same scale as on Survey 2). In the alternative, if you do not wish to change your rating please provide a written reason for retaining outside the emerging consensus. Your opinion will be valuable in understanding the limits of the emerging consensus.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
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<td>1</td>
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<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
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</tbody>
</table>

I Times and Ways to Collect Information

A. Pre-training

2. **Structured interview**: SBDC person verbally asks questions prompted by questionnaire, face to face.
   
   *panel average: 1.67 your response: 3*

   **new rating**
   or
   **comment**

3. Semi-structured interview: unstructured time followed by face to face verbal questions (#1 and #2)

B. During training

8. Unstructured personal interview/counseling: SBDC person and SBDC client, face to face

9. **Structured interview/counseling**: SBDC person verbally asks questions prompted by questionnaire, face to face
   
   *panel average: 2.33 your response: 3*

   **new rating**
or
comment

10. Semi-structured personal interview/counseling: unstructured followed by verbal questions (#8 and #9)
12. Semi-structured personal interview: unstructured time followed by written questionnaire (#9 and #11)
13. Monthly small focus group discussions during SBDC class (SBDC instructor facilitated)
   panel average: 2.20 your response: 3
new rating
or
comment

15. Quarterly small focus group discussions during SBDC class (SBDC instructor facilitated)

C. End-of-training

24. Structured interview/counseling: SBDC person verbally asks questions prompted by questionnaire, face to face
   panel average: 1.78 your response: 3
new rating
or
comment

25. Semi-structured personal interview/counseling: unstructured followed by verbal questions (#8 and #9)
   panel average: 2.11 your response: 3
new rating
or
comment

27. Semi-structured personal interview: unstructured time followed by written questionnaire (#9 and #11)
28. Small focus group discussions during SBDC class (SBDC instructor facilitated)
   panel average: 2.33 your response: 3
new rating
or
comment

29. Small focus group discussions during SBDC class (outside facilitator)
32. E-mail questionnaire of SBDC clients

D. Post-training

33. Personal interview
   panel average: 2.44 your response: 3
new rating
or

comment

35. Questionnaire sent by mail
38. Small focus groups

II Types of Information
A. Organizational Information
39. Name of business
40. Type of organization (proprietorship, partnership, family...)
41. Size of organization (# of employees, gross sales)
42. Years under current management
43. Type of business (major products/services)
44. Primary customers?
45. Business trends?
46. Primary competitors?
47. Affiliations with other businesses?
48. Company Mission Statement
49. Types of employees (administrative, sales, etc.)

B. SBDC Client Information
50. Name
51. Title/position
52. Education
53. Work experience
54. Prior small business management training
55. Memberships in business related organizations
56. Previous business management experience (years and type)
57. Long term personal goals
58. Long term business goals
59. Preferred management/leadership style?
60. What do you like most about your job/business?
61. What drives you batty in your job/business?
62. How do you learn best?
63. Describe a recent change you made and identify the factors that made you change.

C. Small Business Management Skills Information
65. Strategic management skills (mission statements, objectives, business strategies)
66. Administrative management skills (personnel, legal, risk, accounting, finance, computers)
67. Operational management skills (production, marketing)
68. Learning management skills (time management, facilitating continuous learning for employees, encouraging collaboration, modeling learning skills, information filtering, people skills, communications)

III Scales (just rate each scale 1-5)
69. Scale 1: Rate your knowledge or skill in each of the following areas using the scale below:
   1. no knowledge/awareness
   2. basic knowledge/some awareness: not using
   3. adequate knowledge: not using regularly
   4. expert: using knowledge to advantage
   5. not applicable to business

Please email, fax or mail this survey to me by Friday, April 19, 1996.

That concludes the survey stage of my research. After I have received and analyzed the responses, I’ll contact you to arrange for a final interview to discuss the research process and findings.
Thanks for your help!!!

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