Measuring Implementation in Schools:

THE STAGES OF CONCERN QUESTIONNAIRE

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Downloadable files

There are digital files associated with this product, including a MS Word version of the questionnaire and scoring sheets, as well as a scoring program in MS Excel and SAS formats. The files can be downloaded at **www.sedl.org/myfiles** by entering the following product code: SOCQ75.

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The authors of this manual wish to express their strong appreciation and thanks to Leslie Blair, developmental editor. Leslie worked long and hard in listening, developing an understanding of the CBAM constructs, and adding to the quality of the final product. She has become an invaluable resource and colleague.

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Foreword

SEDL is pleased to publish a reprint of the manuals describing the use of the three dimensions of the Concerns-Based Adoption Model (CBAM). All three manuals have been updated and given a new title. Each manual will be available individually, but also as a set under the title *Measuring Implementation in Schools: Using the Tools of the Concerns-Based Adoption Model.*

The title of this series may appear at first to be a misnomer. How does one "measure implementation"? Implementation is a complex process or set of processes. Researchers have proposed many models and explanations of the implementation process based on variables such as the nature of the understanding and autonomy of the implementing individuals—their capacity or their will to make changes. Other explanations focus on the clarity with which the reform policy describes outcomes, processes, and consequences. All of these models attempt to portray what accounts for successes and failures during the process of policy implementation such as standards-based education reforms.

Measuring the process of implementation is tantamount to measuring a journey. Indeed, the developers of the Concerns-Based Adoption Model have compared implementation to a journey across a chasm. In change implementation, there is a chasm between adoption of new practices and their implementation which will result in improved student outcomes. It is impossible for teachers to make a leap across the chasm; instead there is an implementation bridge, which is crossed as practice is changed and reforms are implemented. An implementation researcher certainly can't measure the journey across the bridge. But one can measure many things related to that journey: the distance from one bank to the other, the length of the bridge, and the number of steps and time it takes to reach the peak of the bridge or to cross the bridge. An evaluator can estimate how many people are needed to take the journey; she can describe how they organize to pack, navigate and choose the route, correct their course, and complete the journey. And in the end, the measurements will help us see what happened during the course of the journey; we can understand how we came to begin and complete the journey and arrive where we planned.

If "implementation as a journey" is a metaphor, the notion of taking measure of aspects of that journey is an extension of that conceptual metaphor. It reminds us of some important qualities of the process of implementing educational change: it is dynamic, it is difficult, its success or failure is affected by many interdependent factors and variables, many of which we still know little about. And it provides the framework in which to consider some of the tools we might take to make that journey more memorable and productive. The various dimensions of the Concerns-Based Adoption Model (CBAM) provide some of those tools.

Scope of the Revision of the CBAM Manuals

Purpose and Intended Audiences

The CBAM conceptual framework, data collection tools, and model for considering implementation are among the most important contributions to research on the process of change in education in the past 30 years. During those years, observers of school improvement have documented movements from "effective schools," to "school restructuring," to "systemic reform," to "standards-based reform and accountability." How we think about implementation has also evolved from thinking about the success of an implementation process as a function of one teacher and one curriculum, to thinking about it as a function of an instructional group—a team or a faculty. Though CBAM was developed during an era when introducing single innovations was a prevalent way to improve teaching and learning, the model continues to inform education reform today. The refined CBAM manuals accomplish the following: (a) present the constructs of the model; (b) update the knowledge base; and (c) support appropriate applications of the CBAM through appropriate use of the CBAM tools to assess the implementation of innovations in school settings.

The new generation of CBAM materials is aimed primarily at researchers charged with measuring the implementation of a new practice or innovation in a school setting. By "researchers" we mean university researchers, program evaluators, and change facilitators who are gathering data to assess, describe, evaluate, or monitor the implementation of change. Evaluators, administrators, and other staff members can use the CBAM tools formatively to track how they are implementing particular reform initiatives.

Implementation researchers may also use the CBAM tools to build knowledge about how teachers make sense of reform policies and resulting innovations. Reviewing data gathered using all three tools helps them add to the implementation literature to refine what is known about how teachers' cognition, affect, and sense of their situation helps them make sense of and interpret policy reforms. Their ability to do that sense making is critical to their implementation of an instructional innovation. The CBAM tools used in an integrative way can help researchers add to the implementation knowledge base.

A third audience includes administrators, teachers, and change leaders who are charged with implementing and sustaining change in a school or across a district. Faculty and other staff members can use the CBAM tools to clarify the components of complex reforms. Administrators can use them to collect data that will help them determine what modifications to make or what types of support they need to provide—more resources, professional development for teachers, or tutoring for students—to improve and sustain implementation of a standards-based reform.

Parameters of the Updates

The principal authors, who were among the original CBAM developers, identified the following parameters for refining the selected materials in each volume: (a) incorporate most recent advances in methodologies; (b) use approachable, accessible language that represents the depth and rigor of the

knowledge base about CBAM for an evaluation audience yet is instructional for the practitioner user; (c) explicitly discuss the strengths and limitations of the updates of this version, especially in discussion of most recent statistical analyses; (d) update literature review for each construct and include explicit descriptions of research design, methodologies, and source and year of publication; and (e) include recent examples of application of the model or one of the CBAM tools, focusing especially on assessing the progress of implementation processes.

Structure of Volumes

Each of the three CBAM dimensions is described in a separate volume, *Measuring Implementation in Schools: The Stages of Concern Questionnaire; Measuring Implementation in Schools: Levels of Use;* and *Measuring Implementation in Schools: Innovation Configurations.* The three volumes contain similar or redundant information so that each volume can stand alone as a CBAM reference. All three volumes are structured as follows:

Foreword
Preface
Introduction
  Describe CBAM constructs
  Describe relationship of the tools to each other
Example applications and scoring measures
Literature review
  Narrative
  Summary chart: author/reference/findings
Resources
References

Each CBAM dimension has a unique tool, with specific traits and strengths as a tool. The Stages of Concern (SoC) Questionnaire is a quantitative instrument that measures what a teacher or user is feeling about an innovation. The Levels of Use (LoU) Interview is a focused interview protocol that measures teachers' actions in eight behavioral profiles along a continuum of use. The Innovation Configurations (IC) Map is a verbal description of the components of an innovation; it describes what individuals will be doing as they are implementing each component, with variations of practice from poor to ideal. Likewise, each volume has its own particular characteristics, modifications to the structure, and specific resources.

Finally, a supplemental resource in video format is available on the SEDL website at www.sedl.org/cbam/videos/cgi? The video includes an overview of the CBAM constructs as they may be applied to assessment of implementation of standards-based reform and accountability initiatives. The video features interviews with Dr. Gene Hall, Dr. Shirley Hord, and Dr. Archie George, three of the original CBAM developers and principal authors of this revised series.

SEDL appreciates the support of the Institute of Education Sciences for this revision of CBAM tools. We are also grateful for the assistance and support of our colleagues who reviewed drafts of these manuals: David Marsh, University of Southern California; Kay Persichitte, University of Wyoming; Sharon Boutwell, Spring Branch ISD; and D'Ette Cowan, Ann Neeley, and Ed Tobia, SEDL. Our expectation is that evaluators, researchers, and practitioners will use the new generation of CBAM manuals to assess the implementation of reform initiatives with the goal of improving education for all learners.

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SEDL

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Preface

The Stages of Concern About an Innovation was developed as one of three diagnostic dimensions of the Concerns-Based Adoption Model (CBAM), a framework for measuring implementation and for facilitating change in schools. The Stages of Concern Questionnaire (SoCQ) provides a way for researchers, program evaluators, administrators, and change facilitators to assess teacher concerns about strategies, programs, or materials introduced in a school. Only by understanding concerns and addressing those concerns can they assess the extent of implementation and/or guide teachers successfully through the change process.

Although CBAM and its diagnostic dimensions were developed in the 1970s by the Research and Development Center for Teacher Education at the University of Texas, the model and its tools remain as relevant now as they were then. The SoCQ has been used in many studies of a variety of educational innovations and has served as the research basis for many doctoral dissertations. Some researchers have adapted it for specific populations or situations. It has been translated into several foreign languages and used in industrial settings. Independent investigations of the reliability and validity of the Stages of Concern scores and of the developmental theory predicting a sequence of concerns generally have concluded that the fundamental model is valid. Some studies, however, have suggested radical changes to the instrument, including deleting or adding scales and reordering the sequence of the stages. It has been gratifying to witness the widespread interest in and use of the SoCQ, but we caution researchers to be skeptical about any findings based on small samples or on one administration of the questionnaire.

This manual has been designed primarily to serve the needs of researchers, facilitators of change, and others who are assessing the implementation of change or reform programs. It is both a user's manual and a technical report on the development of the SoCQ, providing psychometric and interpretative information about the tool. We begin by defining concerns, describing the questionnaire, and presenting reliability and validity information. Administration and scoring sections follow, with nearly half the manual devoted to how to interpret results from the questionnaire. We conclude with a statement of limitations and restrictions. The complete Stages of Concern Questionnaire is included in appendix A.

Those who prefer a less quantitative and technical approach might consider an open-ended procedure for assessing the concerns of both innovation users and nonusers. Such a procedure is described in the *Manual for Assessing Open-Ended Statements of Concern About an Innovation* (1976), by Beulah Newlove and Gene Hall. The open-ended form is especially suited to more informal assessments of concerns and does not require quantitative scoring procedures. That manual is available through SEDL.

This update would not have been possible without the support and encouragement of the staff at SEDL, especially Joan Buttram, executive vice president and chief operating officer, and Joyce Pollard, director of the Office of Institutional Communications.

For more information about the Stages of Concern Questionnaire, the open-ended Stages of Concern measure, or other aspects of our research, please feel free to contact the authors. Also, we would like to know about research activities and findings of others who have used the measures, tools, or concepts we have developed in our studies of change and our initial verification of the Concerns-Based Adoption Model.

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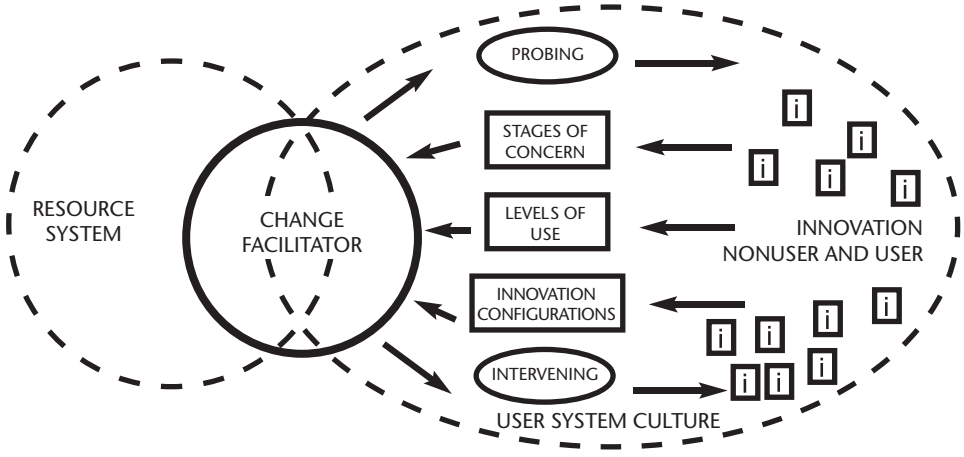
August 2005

Chapter One
Overview: Early Development of the Concerns-Based Adoption Model

The Concerns-Based Adoption Model (CBAM) evolved out of the work of Frances Fuller (1969) and others in response to the innovation focus approach to educational change. The innovation focus was common to the diffusion and adoption era of the 1960s and 1970s. Within this conception of a school change process, best practice was presented in terms of discrete innovations or programs, developed by an external source and presented to teachers and schools as a packaged product. Theoretically, teachers only had to adopt the innovation (whether it was a product, curriculum, set of strategies, or entire program that included multiple innovations) to achieve the desired outcome promoted by the developer(s) of the innovation. Needless to say, in most cases the promised outcomes did not occur, at least not in the same way they did in the original site of development. Attempts to resolve this dilemma led to many studies of the process of change or adoption of innovations, stimulating the investigation of multiple dimensions of a change process. Researchers at the Research and Development Center for Teacher Education (R&DCTE) at the University of Texas at Austin began an investigation of what happens when individuals are asked to change their practice or adopt an innovation. This work resulted in the Concerns-Based Adoption Model (Hall, Wallace, & Dossett, 1973) and further development of its diagnostic dimensions. The CBAM research team believed that change begins with the individual, usually the teacher or adopter, and focused its early efforts on understanding what happens to teachers and college faculty when presented with a change. The resulting model is a framework designed to help change facilitators identify the special needs of individuals involved in the change process and address those needs appropriately based on the information gathered through the model's diagnostic dimensions (see Figure 1.1).

Figure 1.1. The Concerns-Based Adoption Model



Stages of Concern, as it evolved, became the hallmark of CBAM work, in that it provided a framework from which to understand the personal side of the change process. Subsequent elements of CBAM—Levels of Use, Innovation Configurations, and the work of change facilitators (Hall & Hord, 1987; Hord, Rutherford, Huling, & Hall, 1987)—emerged developmentally as ongoing research was conducted on the change and adoption process.

During the 1980s and 1990s, efforts to improve teaching and learning processes moved away from discrete innovations and toward looking at change in terms of organizations and systems. Initiatives such as restructuring, comprehensive school reform, site-based management, teacher accountability, and, more recently, the No Child Left Behind Act were all begun to improve school outcomes, but the framework for change and its supports moved from the one teacher–one innovation configuration to whole-school change on a variety of levels at once. Although organizational change still focuses on supporting teachers' continuous learning and improvement, with the goal of improving student outcomes, the language of change is now more abstract. It includes terms—such as *accountability, values, teacher leadership,* and *learning communities*—that touch on the multiple dimensions of change but still boil down to questions arising from the implementation formula: Who makes the change, whatever its definition? How does it happen? What does the change look like for implementers? and What is the best way to facilitate implementation and change? No matter what the school reform, someone still has to change. CBAM and its tools are as relevant today as they were more than 30 years ago when first conceived. CBAM provides a sound understanding of the affective and behavioral dimensions of change, whatever the innovation, and the diagnostic tools provide ways to measure implementation from several different perspectives.

Current uses of the CBAM model are as diverse as are the innovations to which it might be applied. The development period for CBAM materials, based on research and testing application, occurred from the mid-1970s to the mid-1980s, when the R&DCTE was closed and the core research team dispersed to other research and academic settings. During the time of active development of CBAM materials, a cadre of CBAM practitioners emerged. These practitioners became trained in the model and disseminated it to a range of school, organizational, and university settings. As a result, CBAM tools commonly have been used in federally sponsored research projects, dissertation research, evaluations, and many change programs. Active research on CBAM tools continues, as does use of the CBAM framework and tools, along with learning from their application. Understanding teacher or individual change continues to be an important focus for thinking about and facilitating teacher development and school improvement, even in the current context (see Anderson, 1997, for broader discussion).

Early Research on Teachers' Concerns

In the 1960s, Frances Fuller conducted a series of in-depth studies of teachers' concerns. A counseling psychologist, Fuller approached her studies from a clinical rather than a pedagogical point of view. After conducting group counseling sessions and longitudinal in-depth interviews of student teachers, Fuller (1969) proposed a

developmental conceptualization of teachers' concerns. She found that their concerns corresponded to their career stages: preteaching, early teaching, or late teaching. She believed that teacher concerns occur in a natural sequence and are not simply a consequence of the quality of a particular teacher education program, as some earlier researchers had hypothesized (Travers, Rabinowitz, & Nemovicher, 1952).

In Fuller's developmental sequence, teachers' concerns appear on a continuum, from concerns about self to concerns about the task of teaching to concerns about impact on students:

Preteaching Phase: Nonconcern
Fuller found that education students with no teaching experience rarely had specific concerns related to teaching itself. The teaching-related concerns they did express were usually amorphous and vague: anticipation or apprehension. . . . This pre-teaching period seemed to be a period of non-concern with the specifics of teaching, or at least a period of relatively low involvement in teaching. (1969, p. 219)

Early Teaching Phase: Concern With Self
Student teachers and beginning teachers had concerns that could be expressed by the questions (1) Where do I stand? and (2) How adequate am I? When asking, Where do I stand?, teachers are trying to gauge how much support they will have from their supervising teachers and principals and the limits of their acceptance as professionals within the school. By asking, How adequate am I?, teachers are expressing concerns about their ability to deal with class control, their general adequacy, and their preparedness to handle the classroom situation.

Late Teaching Phase: Concern With Pupils
Characteristic of experienced, superior teachers, these concerns focus on pupil learning and teacher professional development. Teachers at this phase raise questions such as, Are pupils learning what I am teaching? Are pupils learning what they need? and How can I improve myself as a teacher? Fuller incorporated the Concerns model into a particular approach called "personalized teacher education" (Fuller, Parsons, & Watkins, 1973). Research on teacher concerns—their assessment, arousal, and resolution—followed (Fuller & Bown, 1975; Fuller & Manning, 1972).

In later work, parts of Fuller's model were abstracted to four major clusters of concerns (Hall & Hord, 1987). These were classified as *unrelated* concerns, *self* concerns, *task* concerns, and *impact* concerns. At the beginning of their preservice programs, teachers would identify concerns unrelated to teaching, such as concerns about passing a test or getting along with a roommate. Self concerns were identified in potential teachers later in the preservice education program. These concerns were related to teaching but were egocentric and reflected the individuals' feelings of inadequacy or self-doubt about their knowledge. Beginning teachers often expressed task concerns focused on issues more related to the job of teaching, such as logistics, preparation of materials, and scheduling. Experienced teachers were more likely to have impact concerns, which center on how their teaching affects students and how they can improve themselves as teachers. As noted below, the concerns common to the change process and in adoption of an innovation can be categorized in the same clusters.

The Concerns-Based Adoption Model

During the 1969–70 academic year, staff members of the Research and Development Center for Teacher Education of the University of Texas at Austin observed that teachers and professors involved in adopting an innovation appeared to express concerns similar to the ones Fuller had identified. The researchers began to document the concerns expressed by teachers and college faculty who were adopting various educational innovations.

As their body of concerns documentation grew, the researchers hypothesized that (a) there were definite categories of concerns among innovation adopters and (b) the concerns changed in what seemed to be a logical progression as users became increasingly confident in using innovations. In time, the researchers identified seven Stages of Concern (SoC) About an Innovation through which individuals progressed as they implemented an innovation and become competent using it. The researchers also created a 35-item questionnaire to determine where someone is in the SoC (Hall, George, & Rutherford, 1979). The stages will be explored in much greater detail later in the manual, but Figure 1.2 offers a simplified scale.

The researchers then developed a way to describe the extent to which an innovation is being used. For example, some teachers might not yet have even started to use the innovation, others might be experimenting with it, and others might be using it completely and efficiently. Eight Levels of Use (LoU) were identified (Hall, Loucks, Rutherford, & Newlove, 1975), and these focus on knowledge, skill, and behavioral aspects of the individual's involvement with change. Next the researchers developed a focused interview procedure for measuring the Levels of Use (Loucks, Newlove, & Hall, 1976).

Together, the Stages of Concern and the Levels of Use provide a powerful description of the dynamics of an individual involved in change, one dimension focusing on feelings, the other on performance. Each member of an organization will have his or her own profile of the Stages of Concern about and Level of Use of a particular innovation.

With the Stages of Concern and Levels of Use as a foundation, the research team developed a complete model of the complex process of change that occurs when individuals in formal organizations are required to adopt an innova-

Figure 1.2. Typical Expressions of Concern About an Innovation

Stages of Concern		Expressions of Concern
"Impact"	6	I have some ideas about something that would work even better.
	5	I would like to coordinate my effort with others, to maximize the innovation's effect.
	4	How is my use affecting my students?
"Task"	3	I seem to be spending all my time getting materials ready.
"Self"	2	How will using it affect me?
	1	I would like to know more about it.
"Unconcerned"	0	I am not concerned about it.

tion. Hall, Wallace, and Dossett described this Concerns-Based Adoption Model (CBAM) in 1973 in "A Developmental Conceptualization of the Adoption Process Within Educational Institutions." In this, the "original" CBAM paper, the authors proposed that the manager or facilitator of a specified change could use the Stages of Concern and Levels of Use as diagnostic tools to assess where the individual members of an organization are in relation to the adoption of the change. With those diagnostic data, the manager could then develop a prescription for any interventions needed to facilitate the change effort. During the next few years, research revealed that individual teachers almost always modify innovations to fit their students and classrooms; thus, the research team added a third diagnostic tool, Innovation Configurations (IC), to the model. The IC help change facilitators identify and describe the various forms an innovation can take, showing the most ideal form of the innovation, thus making introduction and monitoring of the change easier. In the process of adopting a change, the Stages of Concern represent the *who*, the Levels of Use are the *how*, and the Innovation Configurations are the *what*. Research on change facilitators, interventions, and organization culture complete the picture in terms of the elements needed to facilitate the change process over time.

The Concerns-Based Adoption Model is a conceptual framework that describes, explains, and predicts probable behaviors throughout the change process, and it can help educational leaders, coaches, and staff developers facilitate the process. Readers of this manual who need to acquire a more complete understanding of CBAM should refer to published references including the second edition of *Implementing Change: Patterns, Principles, and Potholes* (Hall & Hord, 2006). The bulk of this manual will focus on the Stages of Concern, the SoC Questionnaire, and interpreting the questionnaire results. The last chapter is devoted to recently published literature about the Stages of Concern.

Chapter Two
The Stages of Concern About an Innovation

What Are Concerns?

Our world is complex. It is not possible for us to focus at any one time on all the stimuli and conditions we encounter. There is much that we do not even perceive at all. Of the things we do perceive, we do not pay equal attention to each one. We assign different priorities and levels of interest to the things we perceive, individually and in various combinations, but most of the time we have little or no interest in most stimuli.

Certain things in our world, however, get our attention, because of external forces (the influence of others), internal forces, or a combination of the two. The way we perceive these things depends on what they are and who we are. Our entire psychosocial being—our personal history, personality dynamics, motivations, needs, feelings, education, roles, and status—shapes how we perceive, feel about, and cope with our environments. Whenever something heightens our feelings and thoughts, we are registering *concern* about it.

We experience many types of concerns, at varying levels of intensity. We tend to have more intense concerns about things with which we are more personally involved. It is important to understand that our perceptions create and shape our concerns. To use a common metaphor, some of us perceive a glass of water as half full, whereas others see the same glass as half empty. The physical facts do not change, but how the facts are perceived depends on the person's point of view.

Concerns are an important dimension in working with individuals involved in a change process. In concerns research, the generic name given to the object or situation that is the focus of the concerns is *innovation*. The innovation and its use provide a frame of reference from which concerns can be viewed and described. The innovation is not necessarily new. It may be a new strategy, program, or practice, or it may be something that has been in use for some time.

Although we can experience many types of concerns about an innovation concurrently, an individual will perceive certain aspects of the innovation as more important than others at a given time. For example, concerns will vary depending on the amount of a user's knowledge about and experience with the innovation. Someone who has never used a certain innovation will experience different concerns at different levels of intensity than someone who has begun to use it. Both of those individuals will register concerns different than those of someone who is highly experienced in using the innovation.

Identifying the Stages of Concern About an Innovation

Seven Stages of Concern About an Innovation have been identified (see Figure 2.1). They are called *stages* because usually there is developmental movement through them; that is, the user of an innovation may experience a certain type of concern rather intensely, and then as that concern subsides, another type of concern may emerge. As in Frances Fuller's work with

Figure 2.1. The Stages of Concern About an Innovation

IMPACT	6	Refocusing	The individual focuses on exploring ways to reap more universal benefits from the innovation, including the possibility of making major changes to it or replacing it with a more powerful alternative.
	5	Collaboration	The individual focuses on coordinating and cooperating with others regarding use of the innovation.
	4	Consequence	The individual focuses on the innovation's impact on students in his or her immediate sphere of influence. Considerations include the relevance of the innovation for students; the evaluation of student outcomes, including performance and competencies; and the changes needed to improve student outcomes.
TASK	3	Management	The individual focuses on the processes and tasks of using the innovation and the best use of information and resources. Issues related to efficiency, organizing, managing, and scheduling dominate.
SELF	2	Personal	The individual is uncertain about the demands of the innovation, his or her adequacy to meet those demands, and/or his or her role with the innovation. The individual is analyzing his or her relationship to the reward structure of the organization, determining his or her part in decision making, and considering potential conflicts with existing structures or personal commitment. Concerns also might involve the financial or status implications of the program for the individual and his or her colleagues.
	1	Informational	The individual indicates a general awareness of the innovation and interest in learning more details about it. The individual does not seem to be worried about himself or herself in relation to the innovation. Any interest is in impersonal, substantive aspects of the innovation, such as its general characteristics, effects, and requirements for use.
	0	Unconcerned	The individual indicates little concern about or involvement with the innovation.

concerns about teaching (1969), the Stages of Concern About an Innovation appear to progress from little or no concern, to personal or self concerns, to concerns about the task of adopting the innovation, and finally to concerns about the impact of the innovation. The Stages of Concern Questionnaire (SoCQ) is the primary tool for determining where an individual is in the stages. The emergence and resolution of Concerns about innovations appear to be developmental, in that earlier concerns must first be resolved (lowered in intensity) before later concerns can emerge (increase in intensity). The research suggests that this developmental pattern holds for most

process and product innovations. However, this developmental pattern is not a certainty.

As Fuller pointed out, the arousal, or emergence, and resolution of concerns stem from different sources: "Arousal seems to occur during affective experiences—for example, during confrontation with one's own videotape. . . . Resolution seems to occur through more cognitive experiences: acquisition of information, practice, evaluation, synthesis and so on" (1970, p. 1.1).

The process of the emergence and resolution of concerns, however, is highly personal and requires time as well as timely intervention for both cognitive and affective factors. That is, merely acquiring more knowledge about or experience with an innovation does not guarantee that an individual will resolve earlier concerns and have later concerns emerge. For example, an innovation might be poorly designed or implemented inappropriately. The knowledge and skill requirements might be beyond a user's abilities. Other demands on a user might keep the innovation from having a high priority in the person's life. In some cases, resolution of certain concerns might be nearly impossible. In general, however, it appears that a user's concerns about an innovation progress toward the later, higher-level stages (i.e., toward impact concerns) with time, successful experience, and the acquisition of new knowledge and skills.

It is critical to note that development of higher-level concerns cannot simply be engineered by an outside agent. Holding concerns and changing concerns is a dynamic of the individual. Providing affective experiences and cognitive resources in a timely manner certainly can supply the grist for the emergence and resolution of concerns, thereby facilitating the development of higher-level concerns. There is no guarantee, however, that the emergence of higher-stage concerns will follow the reduction of lower-stage concerns. Attempting to force higher-level concerns is a sure way to make lower-stage concerns more intense. Whether and with what speed higher-level concerns develop will depend on individuals and their perceptions as well as on the innovation and the environmental context. Although personalized interventions can facilitate change, in the end individuals determine for themselves whether or not change will occur. Yet attending to a teacher's concerns is not an attempt at manipulation. Rather, our studies have demonstrated how effective it can be to recognize the inevitable presence of concerns within individuals and to extend a helping hand to assist in coping with and resolving those concerns.

Chapter Three
The Stages of Concern Questionnaire

The Stages of Concern Questionnaire (SoCQ) was developed to provide a quick-scoring measure of the seven Stages of Concern About an Innovation. Original development of the SoCQ lasted 3 years. The designers explored several formats and methodologies before choosing the final structure. The resulting SoCQ was tested for estimates of reliability, internal consistency, and validity with several samples and 11 innovations. This section includes a brief history of the development of the questionnaire and reports on the various reliability and validity studies of the tool. The most recent version of the SoCQ may be found in appendix A and on the CD ROM located in the back of this manual.

Overview of the Development of the SoC Questionnaire

In Fall 1973, the initial attempts were made to assess the concerns of individuals about a specified innovation. The first pilot instrument consisted of an open-ended concerns statement and a forced ranking. The developers also explored variations in open-ended formats, the use of Likert scales and adjective checklists, and interviewing procedures.

By Spring 1974, the researchers had identified two strategies for measuring the Stages of Concern About an Innovation. The primary strategy was the development of a quick-scoring pencil-and-paper questionnaire, which became the SoCQ. The second strategy entailed the development of a clinical instrument using open-ended questions and an objective scoring procedure for classifying individual written responses. That instrument became the Open-Ended Concerns Statement (Newlove & Hall, 1976).

The first major step in developing the SoCQ was to identify potential statements of concerns about an innovation. Project staff members were asked to write statements that could indicate a concern of an individual at a particular stage of adopting and implementing an innovation. Definitions and scale points from the original Concerns-Based Adoption Model (CBAM) paper (Hall, Wallace, & Dossett, 1973) served as guidelines. Statements also were selected from the Open-Ended Concerns Statement data that were collected during the pilot studies.

The staff generated 544 potential statements, which were then written on separate index cards. Using the concerns definitions from the original CBAM paper, 10 people in turn sorted the statements into eight groups that corresponded to the seven Stages of Concern and an "unacceptable" category. The results of that Q-sort indicated that at least 400 of the statements were related to a given Stage of Concern, as agreed on by six or more of the judges.

Those 400 statements were edited for redundancy and reworded into complete sentences. That process reduced the number to 195 statements, which were then included on the pilot instrument.

In May 1974, the pilot instrument was sent to a sample of teachers and college faculty stratified according to years of experience with an innovation. Two innovations were identified: teaming in

elementary schools and the use of instructional modules in colleges. Both users and nonusers of the innovations participated in the study. Construction of subscales was initiated after 363 questionnaires were returned. Item correlation and factor analyses indicated that seven factors explained more than 60% of the common variance among the 195 items and that the hypothesized scales corresponded to the factor scales. As a test of validity, selected people who had completed the pilot questionnaire were interviewed to assess their concerns about the specified innovation. Judges agreed on how each person should be classified, and these data were subjectively correlated with a person's classification on the 195-item measure.

Following the pilot study, the researchers reduced the questionnaire to 35 items by selecting, from the original 195-item instrument, 5 items for each of the seven stages. In September 1974, they administered the retooled questionnaire to 171 higher-education and elementary school faculty members. One week later, the same form was readministered to establish test–retest reliability.

During the next 2 years, the 35-item Stages of Concern Questionnaire was used in cross-sectional and longitudinal studies of 11 educational innovations. Several validity studies were explored. Respondents were interviewed about their concerns, and the interview tapes were rated for concerns. Those ratings then were contrasted with the SoC Questionnaire data. Individuals were asked to respond to SoC stage definitions and to indicate their relative intensity of concern, and Levels of Use interview tapes also were analyzed to determine concerns. The SoC Questionnaire data were interpreted and predictions were made about what concerns each respondent expressed in an interview. Those predictions were compared to actual interview data. Finally, extensive dialogue and interaction helped the project staff develop and refine procedures for interpreting the data.

The general conclusion was that the SoCQ accurately measures the Stages of Concern About an Innovation.

The Validity of the Stages of Concern Questionnaire

The questionnaire developers investigated the validity of the SoCQ by examining how scores on the seven Stages of Concern scales relate to one another and to other variables as concerns theory would suggest. (Cronbach & Meehl outlined this strategy in 1955.) Thus, intercorrelation matrices, judgments of concerns based on interview data, and confirmation of expected group differences and changes over time were used to investigate the validity of the SoCQ scores.

Correlation Matrices and Factor Analysis

The first indications that the questionnaire might measure concerns as conceptualized came with the analysis of the 195-item pilot checklist (May 1974). It should be noted that this prototype instrument contained only six subscales (Stage 1 through Stage 6). Even though the research staff had sorted the original 544 items according to the full seven-stage model, consultants for the project were skeptical that SoC 0 (Unconcerned) belonged on the questionnaire. Thus, the 195 items selected for the pilot survey contained only items selected for Stages 1 through 6. There were between 14 and 68 items per stage on this questionnaire.

Evidence for the validity of the stages as separate constructs related in a developmental way initially came from two analyses. The participants in the pilot study used a 0–7 scale to respond to each item. The highest response indicated that the person considered an item to be v*ery true of me now*. Scale scores were computed by adding the responses for the items in each scale; the sum of the scale scores constituted the total score. An analysis of the data from 363 teachers who had completed the 195-item questionnaire indicated that 83% of the items correlated more highly with the stage to which they had been assigned than with the total score on the instrument. Also, 72% correlated more highly with the stage to which they had been assigned than with any other stage's scale score. This correlational evidence indicated that the items on a particular scale tended to have similar responses, the inference being that the items in each scale measured a notion distinct from notions measured by other scales.

These same data were used in computing the correlation matrix shown in Figure 3.1, which summarizes how the scales (each measuring one stage) intercorrelate.

Notice that the correlations near the diagonal are higher than those more removed from it. Guttman (1954, 1957) applied the term *simplex* to this type of pattern. The simplex pattern in a matrix corresponds to a set of objects having degrees of similarity and dissimilarity with one another in such a way that they can be arranged on a line. Each object will be more like an object immediately beside it than like any object farther away on the line. Thus, the scales on the pilot questionnaire indicated an order consistent with the hypothesized order of the Stages of Concern. As already noted, CBAM staff and outside consultants had been divided about whether to include Stage 0 (Unconcerned) items on the concerns questionnaire. Ultimately, they decided not to include Stage 0 items on the large pilot survey. Thus, there were no items on the 195-item pilot survey specifically written for SoC 0.

Because of computer memory limitations, staff members had to delete 45 of the 195 items before subjecting the pilot data to a factor analysis. Items were selected for deletion based on low item–scale score correlations. An image covariance matrix based on the remaining 150 variables and the 363 respondents was subjected

Figure 3.1. Correlations Between Scale Scores From the 195-Item Stages of Concern Questionnaire (May 1974, *n* = 363)

Stages	Stages				
	2	3	4	5	6
1	.68	.47	.21	.21	.19
2		.78	.43	.37	.43
3			.45	.51	.59
4				.82	.80
5					.77

to principal components factor analysis with varimax rotation. Although only 6 factors had been hypothesized, 10 principal components factors had eigenvalues greater than 1.0. Thus, 10 factors were extracted to allow for complete examination of the factor structure. As it turned out, factors 8, 9, and 10 had no items with primary loadings and therefore were not interpretable. However, the seventh factor proved to be very relevant to the Stages of Concern theory, because it immediately was identified as representative of Stage 0 concerns. Most of the items loading primarily on factor 7 had originally been written for SoC 1, expressing informational concerns or, more specifically, a lack of information about or awareness of the innovation.

Because of this apparent confirmation that SoC 0 could be measured, staff members were asked to review and identify any of the 195 pilot questionnaire items that reflected Stage 0 concerns. Each item selected by at least 6 of 10 staff members was reclassified as Stage 0. (Again, most of the reclassified items originally had been written to measure Stage 1—Informational concerns.) Then the researchers could associate each of the 150 items in the factor analysis pool with one of the seven Stages of Concern (0–6). Researchers observed that the items in each stage had primary loadings predominantly on one of the varimax factors. (As explained in detail later, the items assigned to Stage 0 during the pilot analysis subsequently proved to be less than satisfactory in a number of studies. As a result, several Stage 0 items have been modified or replaced for the updated SoCQ, form 075, in appendix A and on the CD ROM located in the back of this manual.)

A comparison of the hypothesized scales with the obtained factor structure revealed surprisingly high congruence. Stages of Concern scores calculated by summing each person's responses on the items for each scale were correlated with factor scores computed on the basis of the varimax rotated factor structure. These correlations are summarized in Figure 3.2. This matrix shows that varimax factor 7 corresponds to the SoC scale for Stage 0, that factor 1 corresponds to Stage 1, and so forth. This analysis led project members to infer that the seven scales tapped seven independent constructs that could be identified readily with the seven Stages of Concern proposed in the Concerns-Based Adoption Model (CBAM).

Correspondence Between SoC Questionnaire Scores and Other Measures of Concern

Based on item–scale score correlations and item content analysis to avoid excessive redundancy, this pilot study enabled the Stages of Concern Questionnaire (SoCQ) to be reduced from 195 items to 35 items, 5 items per scale. In September 1974, 27 professors completed both the 35-item questionnaire and an open-ended response questionnaire that asked them to describe what they were concerned about when they thought about their use of modules. Four CBAM staff members individually assigned each professor a single Stage of Concern rating based on the open-ended survey. Those four judges then developed a consensus on each professor's SoC rating. Independent ratings on the 27 open-ended statements had an estimated .59 reliability. Group consensus reliability was estimated at .84, based on estimates of judgmental consistency computed using a technique described by Ebel (1951).

Figure 3.2. Correlations Between Varimax Factor Scores and Raw Scale Scores on the Pilot Stages of Concern Questionnaire (150 Items, 363 Respondents)

SoC Stage	Varimax Factor Scores						
	7	**1**	**6**	**3**	**4**	**2**	**5**
0	.83	–.36	.41	.04	.05	–.04	–.09
1	.46	.67	–.40	–.10	.22	–.35	.01
2	–.14	.49	.72	.36	.04	–.14	.26
3	.10	–.04	–.34	.91	.10	.12	–.12
4	–.14	–.19	.00	.12	.96	–.02	–.07
5	.10	.37	.11	–.11	.11	.82	–.34
6	.16	–.05	–.17	–.02	.07	.40	.88

The researchers then used multiple regression to determine the relationships between the SoC Questionnaire scores and the rated open-ended statements. Using raw scores on the seven (0–6) scales as predictors, they obtained a multiple R of .58. That was not significant at the .05 level for seven predictors and such a small number of subjects. When raw scores on only Stage 0 and Stage 6 were used, the multiple R dropped slightly to .52, which was significant at the .02 level for two predictors and 27 subjects. The CBAM staff concluded that there was some relationship between the SoC Questionnaire scores and ratings of concerns expressed on open-ended statements. Considering the difficulty of the rating task, the recognition of that relationship was encouraging.

It is interesting to note that, at the time of that small study, the research team expected to determine each respondent's Stage of Concern by using a linear combination of the SoC Questionnaire raw scale scores, such as the following regression equation:

SoC Stage = 1.50 -0.13*S0 -0.05*S1
-0.003*S2 -0.01*S3 +
0.02*S4 +0.06*S5 +0.8*S6

where *SoC Stage* is the individual respondent's Stage of Concern (a number between 0 and 6); *S0* represents the respondent's raw score for Stage 0; *S1* represents the raw score for Stage 2; and so forth. (The coefficients in this example are actually values based on the normative sample, collected in Fall 1974, $n = 830$.) The concepts and procedures for analyzing an entire SoCQ profile, based on percentile scores, had not yet been developed but proved to be much more informative.

In Spring 1975, the validity of the SoCQ was tested again. As part of a cooperative evaluation study with the Austin Independent School District, the Levels of Use and Stages of Concern were assessed for 161 teachers involved in individualized math and reading. Forty teachers who had extremely high or extremely low scale scores on either SoC Stage 2 or Stage 5 were interviewed for concerns about individualized reading. (Specifi-

Figure 3.3. Cronbach's Alpha Reliability Coefficients and Average Scale Scores for 40 Elementary Teachers Selected for SoCQ Validity Study Compared With Eventual SoCQ Norm Group Average Scale Scores

Stage	0	1	2	3	4	5	6
Validity Study Teachers							
Alpha coefficient	.69	.56	.52	.62	.54	.41	.41
Mean scale score	20.0	12.0	17.0	18.3	16.3	16.9	6.6
Norm Group							
Mean scale score	5.8	12.9	13.5	14.0	23.4	20.0	16.6

cally, the 40 teachers comprised 10 teachers with high Stage 2 factor scores, 10 with low Stage 2 factor scores, 10 with high Stage 5 factor scores, and 10 with low Stage 5 factor scores.)

The interviews were carefully planned. Cue questions were asked to elicit information about each of the seven (0–6) concerns stages. If a teacher did not give enough specific information initially, the interviewer followed with a probing question. After the formal interviews, the teachers were given a short written description of the seven Stages of Concern. Teachers then used a 1–8 scale to indicate how true each stage description was for them at that time. They were then asked to indicate, on a separate sheet, the two descriptions about which they were most concerned and the two about which they were least concerned. When raw scores were used to predict the interviewers' ratings of the concern at each stage, the results were similar to those obtained in the 1974 study. In this case, ratings were being predicted for each Stage of Concern, rather than for the overall Stages of Concern. Stages 1, 3, 4, and 6 each had multiple Rs of more than .56, significant beyond the .05 level. Stages 0, 2, and 5 were predicted with Rs of .52, .50, and .45, which were not significant at the .05 level but were consistently high. From this study it seemed clear that the interview ratings of concern for each stage were related to the concerns expressed on the SoC Questionnaire.

An important consideration is that indications showed that the teachers participating in this study might not have been the optimal group for examining the validity of the SoC Questionnaire. Some were quite overburdened with innovations, and others were anxious about upcoming school district decisions about the individualized concept. Individualized reading likely was not a priority for many of these teachers. Indeed, 33% of the teachers said to be using the program were rated as nonusers, according to the Levels of Use interview (Loucks, Newlove, & Hall, 1976).
In addition, the reliability estimates (Cronbach's alphas) on the SoC Questionnaire scales in this study, ranging from .41 on Stages 5 and 6 to .69 on Stage 0 (see Figure 3.3), were much lower than those found in other samples of teachers.
It is interesting to note that, at the time of this validity study, the norms and profile interpretation procedures had not yet been developed. In retrospect, we see that the Stages of Concern

profile for the validity study teachers indicated a high Stage 0 score, above-average Stage 2 and 3 scores, and below-average scores on all other scales. These teachers were unconcerned about the innovation and also expressed high degrees of personal and task concerns. Considering the low reliability of the SoC scores within this group and the lack of concern about the innovation, it is somewhat surprising that the study showed even the observed modest degree of correspondence between their SoCQ scores and the other measures of concern.

A more rigorous validity study was conducted in August and September 1976. In this effort, the research focused on the question, How accurate are inferences about a person's concerns about an innovation likely to be when these inferences are based on the SoCQ data?

Three staff members conducted the study of information from 28 people who were randomly selected from the Spring 1976 sample in the 2-year study. The staff members began by listening to taped interviews and estimating each person's concerns. Then each person's SoCQ scores were examined.

The order of the steps is important. Pilot studies in which the investigators were exposed to a participant's SoCQ scores before assessing the person's concerns in some other manner typically produced the finding that the scores did reflect the person's concerns. Those judgments might have reflected a bias because of the preliminary exposure to the SoCQ scores.

The data analyses in the second 1976 SoCQ validation study, then, were based on the following:

1. The investigators' ratings of each participant's Stages of Concern, drawn from a taped interview. The investigators indicated the highest perceived concern for each participant, along with one or two also high concerns. The remaining stages were, by default, of lower concern.
2. SoCQ raw stage scores (seven plus total)
3. SoCQ percentile stage scores (seven plus total)

It should be pointed out that the interviews were Levels of Use interviews designed to focus on the teachers' use of the innovation rather than their concerns about the innovation. Thus, the staff had to infer concerns from interviews that had not been specifically designed to measure concerns. The first analysis tested the reliability of the investigators' ratings of concerns. In general, reliabilities were *moderate* to *high*, as shown in Figure 3.4. Ratings of the *highest* and *also high* concerns showed group reliabilities between .42 and .85. Six of the seven Stages of Concern had reliability ratings above .58 ($p < .01$). Only

Figure 3.4. Reliability of Ratings of Highest Stage of Concern by CBAM Research Staff, Based on Levels of Use Interview, ($n = 28$)

Stage	0	1	2	3	4	5	6
Reliability	.59	.85	.60	.42	.71	.73	.67
Significance	< .01	< .01	< .01	.06	< .06	< .06	< .06

Stage 3 showed a nonsignificant reliability (.42, $p = .06$). These were very encouraging findings, because earlier attempts at assessing concerns from interviews had provided less reliable data. Figure 3.5 shows the correlations between the investigators' ratings and the rank ordering of the SoCQ percentile scores. High correlations along the diagonal indicate a strong relationship between the SoCQ ratings and the SoCQ scale scores. Thus, Stage 5 appears to be the "cleanest" ($r = .54$). Stages 1 and 2 show high diagonal correlations but also correlate highly with each other. Stages 0, 3, and 6 fit the expected pattern fairly well. Only Stage 4 ratings and scale scores failed to correlate strongly. Six out of seven significant correlations on the diagonal were judged to be very good. Of the 42 off-diagonal elements, all but 5 were nonsignificant or negative. In addition, 4 of the 5 positive significant correlations off the diagonal were adjacent to the diagonal, indicating close correspondence between adjacent Stages of Concern, as would be expected in a developmental sequence. It can be concluded that, except for Stage 4, this matrix supports the validity of the Stages of Concern Questionnaire.

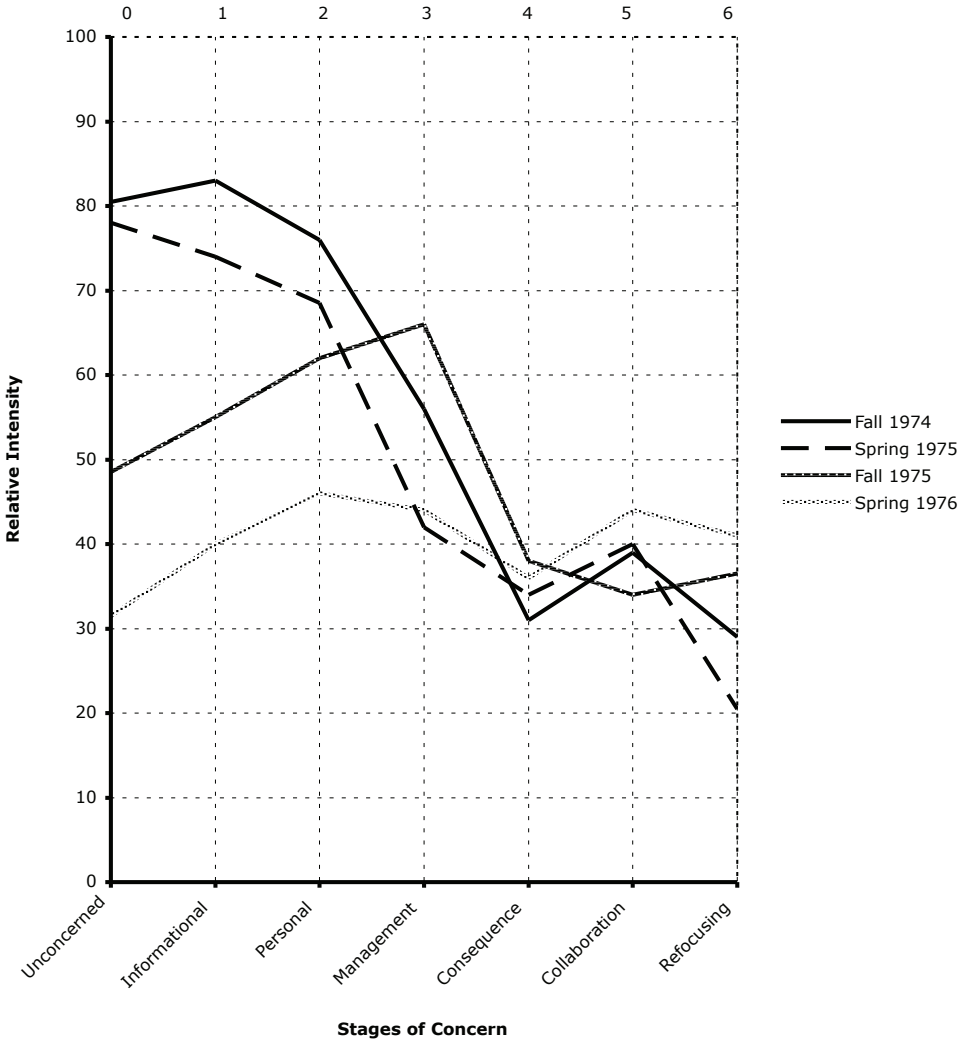
During the 2-year span of that initial longitudinal study, other applications of the SoC Questionnaire served as convincing demonstrations of its validity. One case in which the questionnaire scores dramatically reflected changes in concerns that had been predicted by concerns theory involved the faculties of two elementary schools in an urban school district. The faculty members were invited to participate in a 5-week summer workshop in which they would help develop and learn how to use a new approach to reading instruction. The new approach, which was to replace a traditional basal reader program, might best be described as a diagnostic-prescriptive program. The program called for teachers to assess student needs, establish specific instructional objectives, give appropriate instruction, and carefully evaluate pupil mastery of the stated objectives. Although the new approach continued to employ basal readers, they

Figure 3.5. Correlation of Peak Stage Estimates and Rank Order of SoCQ Percentile Scores

SoC Stage	Peak Stage of Concern Rating						
	0	1	2	3	4	5	6
0	.27	.34	–.11	.02	–.22	–.22	–.13
1	.15	.47	.47	–.09	–.11	–.50	–.45
2	.03	.38	.42	–.21	–.10	–.24	–.34
3	–.25	–.08	.00	.30	–.04	.02	.09
4	–.05	–.22	–.26	–.01	.13	.08	.33
5	–.20	–.48	–.20	–.03	.31	.54	.15
6	–.20	–.20	.16	–.15	.24	.17	.31

$n = 65$ $p < .05$ .25
$p < .01$ .32

Figure 3.6. Two-Year Movement of Teachers' Concerns About Teaming in One Small School



were to be used in very different ways. In fact, the new program required a very different way of teaching reading. Approximately half ($n = 22$) the faculty members were willing and able to attend the 5-week workshop. To accommodate those who did not attend the workshop ($n = 25$), a 1-day briefing was offered just before the opening of school in the fall to explain the new program.

At the start of the day, both groups of teachers completed the Stages of Concern Questionnaire to indicate their concerns about the new reading program. People who had attended the 5-week workshop had higher raw scale scores on Stages 3, 5, and 6, whereas those who attended the 1-day seminar had higher scores on Stages 0, 1, and 2 (all differences significant beyond $p < .05$).

Figure 3.7. Coefficients of Internal Reliability for the Stages of Concern Questionnaire (35 items, *n* = 830, Fall 1974)

Stage	0	1	2	3	4	5	6
Alpha	.64	.78	.83	.75	.76	.82	.71

Figure 3.8. Test–Retest Correlations on the Stages of Concern Questionnaire (*n* = 132)

Stage	0	1	2	3	4	5	6
Alpha	.65	.86	.82	.81	.76	.84	.71

Figure 3.9. Percent of Respondents' Highest Stage of Concern, Initial Stratified Sample (*n* = 830)

Stage	0	1	2	3	4	5	6
Alpha	22	12	9	13	13	20	11

There was no significant difference on Stage 4 concerns between the two groups. These results indicate that the workshop participants' early (i.e., unconcerned, informational, and personal) concerns had been resolved during the workshop, and their later (i.e., management, collaboration, and renewal) concerns were higher than those of the teachers who were about to be introduced to the innovation for the first time.

Another case demonstrating the validity of the SoC Questionnaire and theory in general involved the faculty of a single school that was part of a longitudinal study of team teaching. In 2 years, the teachers in this particular school moved from not teaming through establishing teaming as a routine. As hypothesized by Stages of Concern theory, their concerns shifted from being high on the lower (0, 1, 2) stages, to high on management concerns (3), and, finally, to fairly low intensity on all the concerns stages (see Figure 3.6). As discussed in detail in Chapter 5, concerns profiles like this one add support not only to the validity of the SoC Questionnaire, but also to the overall concerns theory.

The Reliability of the Stages of Concern Questionnaire

The creators of the Stages of Concern Questionnaire wanted to ensure that the tool would have high internal reliability. To do this, they included a statement, or item, only if it had responses that correlated more highly with responses to other items measuring the same Stage of Concern than with responses to items for other stages. Figure 3.7 shows the alpha coefficients of internal consistency for each of the seven Stages of Concern (SoC) scales. These coefficients reflect the degree of reliability among items on a scale in terms of overlapping variance. The formula is a generalization of the Kuder-Richardson Formula 20 for dichotomous items (Cronbach, 1951). The coefficients in Figure 3.7 were computed by using data from a stratified sample of 830 teachers and professors in Fall 1974, from their first exposure to the 35-item questionnaire.

Two weeks after their initial completion of the instrument, a sample of 171 individuals were asked to complete the SoC Questionnaire a second time. Of that sample, 132 completed and

mailed in the retest data. Figure 3.8 shows the test–retest correlations.

The percentile scores used throughout this manual were based on this group of 830 elementary and secondary teachers and university faculty members. The distribution of highest Stage of Concern within this sample is shown in Figure 3.9. Without such a diverse group, it would not have been possible to obtain reliable estimates of the alpha coefficients and other characteristics of the SoCQ.

Since the publication of the original Stages of Concern Questionnaire (SoCQ) manual in 1978, the questionnaire has been used in an extensive array of studies. During the 1980s, four major studies adapted the SoCQ to measure concerns about innovations in nonteaching applications and replicated the development process (Hall, Newlove, George, Rutherford, & Hord, 1991):

- Kolb (1983) developed an SoCQ to assess nurses' concerns about the nursing career.
- Barucky (1984) developed an SoCQ to measure concerns about leadership development in officers in the United States Air Force.
- Jordan-Marsh (1985) developed an SoCQ to measure concerns about exercise.
- Martin (1989) developed a concerns questionnaire for those learning computer programming.

Figure 3.10. Coefficients of Internal Reliability for Each Stage of the Concerns Questionnaire

		Stages of Concern						
Authors	**Sample Size**	**0**	**1**	**2**	**3**	**4**	**5**	**6**
Hall, George, & Rutherford, 1979	830	.64	.78	.83	.75	.76	.82	.71
Van den Berg, & Vandenberghe, 1981	1585	.77	.79	.86	.80	.84	.80	.76/ 73*
Kolb, 1983	718	.75	.87	.72	.84	.79	.81	.82
Barucky, 1984	614	.60	.74	.81	.79	.81	.79	.72
Jordan-Marsh, 1985	214	.50	.78	.77	.82	.77	.81	.65
Martin, 1989	388	.78	.78	.73	.65	.71/ 78*	.83	.76
Hall, Newlove, Rutherford, & Hord, 1991	750	.63	.86	.65	.73	.74	.79	.81

* In these studies, the authors proposed two subscales in place of the original SoC scale.

A summary of the reliability estimates and alpha coefficients for these and other studies is presented in Figure 3.10.

Revisions to Stage 0 (Unconcerned) Items

As mentioned earlier in this chapter, over the years, users of the SoCQ have frequently reported difficulty understanding and interpreting the Stage 0 percentile scores. Items written specifically for Stage 0 were not included in the original 195-item pilot instrument, because some felt it was either impossible or inappropriate to measure that respondents are "not concerned" about an innovation. However, the factor analysis on the responses clearly grouped several items that each expressed either a lack of knowledge about the innovation or a lack of interest in learning about it. Based on this result, items from the existing 195 were selected for SoC 0. The problems that arose resulted from the fact that these two concepts, lack of knowledge and lack of interest, were both represented within the items on this scale. For example, longtime users who felt they knew all they needed to know about an innovation would indicate *not true of me now* to the statement "I don't even know what the innovation is" but also indicated *very true of me now* to the statement "At this time, I am not interested in learning about this innovation."

With this revision of the SoCQ Manual, the research staff has attempted to remedy this situation by revising Stage 0 items. A good model for Stage 0 items that were consistent in content and have worked well in practice was available from a related concerns measure, the Change Facilitator Stages of Concern Questionnaire (Hall et al., 1991). Thus, items reflecting lack of knowledge about the innovation were replaced with items from the Change Facilitator SoCQ that reflected lack of concern about the innovation. All the items on the CFSoCQ were selected for consistency using an approach similar to that described for the SoCQ, with a large sample of items on an initial pilot survey, except that Stage 0 was included.

In Summer 2005, 185 elementary and secondary teachers attending workshops about professional learning communities completed the revised SoCQ. Based on these data, reliability coefficients for the scales were computed. Based on the entire data set, the new Stage 0 scale has an estimated reliability of .66, which is low but higher than found in many studies using the previous items (see Figure 3.10). Within subgroups of these data, the alpha coefficients were .75 based on 32 elementary teachers, .68 based on 74 junior high teachers, and .57 based on 79 high school teachers. This variation illustrates the extent to which scale reliability estimates depend on the sample of respondents as much as the items on a scale. This small sample of predominantly nonusers of this innovation (more than 88% checked *nonuser* or *novice* on the demographics page) was not appropriate for producing new norms, however. Thus, the norms for the new Stage 0 have been brought over from the CFSoCQ for this publication.

Chapter Four
Using and Scoring the Stages of Concern Questionnaire

The Stages of Concern Questionnaire (SoCQ) has four parts: the cover letter; the introductory page; two pages of statements, or items, for the respondent to evaluate; and the demographic page. At least the first three parts are used, whether the questionnaire is administered in person, by mail, or through computer or Internet tools. Scoring is based on converting the item raw score totals for each scale into percentile scores that become the basis for constructing SoCQ profiles, which make interpretation of the results much more holistic.

The Parts of the SoC Questionnaire

Cover Letter

SoC Questionnaire data can be collected through a wide variety of survey techniques. Dillman (1978, 1999) and Dillman and Christian (2005) provide excellent suggestions for survey administration that apply to the SoCQ. Regardless of the collection method, however, a cover letter is recommended for each administration of the SoCQ. The cover letter should put the survey in context and explain, as appropriate, the purpose of the study. It should include human-rights compliance information, advise the respondent of the confidential nature of the information, and provide the "informed consent" currently required for virtually all studies (Bradburn & Sudman, 1988). A sample cover letter is included in appendix A.

Introductory Page

The introductory page states the purpose of the questionnaire, explains and shows through examples how to complete the instrument, and indicates which innovation the individual is to consider when responding. Space is provided for identification of the respondent, either by name or some type of identification number. Finally, a code usually is written in the upper right-hand corner of the page to identify both the institution and the innovation. This code expedites data management when data are being collected from more than one institution or about more than one innovation. Figure 4.1 is a sample of the introductory page that indicates the few elements that must be customized for each administration of the questionnaire.

Concerns Questionnaire

The introductory page has been revised according to continuing feedback from respondents during the instrument development process. Now it clearly conveys the information and directions needed to get accurate responses. For example, in the early stages of development, some respondents were frustrated by items that seemed irrelevant to them. Thus, the statement about the applicability of the instrument to a wide range of people and the underlined statement about relevance of items were added. Those changes alleviated much of the frustration about relevance. In addition, some teachers initially tended to respond according to their generalized concerns about teaching rather than to concerns about a specific innovation or program. There also was some tendency to respond on the basis of past rather than present concerns. The final paragraph was designed to focus the responses on concerns at the time the SoCQ is completed. Because it has

Figure 4.1. Introductory Page of the Stages of Concern Questionnaire

SoCQ 075

Stages of Concern Questionnaire

Name _____

To help us identify these data, please give us the last four digits of your Social Security number:

____ ____ ____ ____

The purpose of this questionnaire is to determine what people who are using or thinking about using various programs are concerned about at various times during the innovation adoption process. The items were developed from typical responses of school and college teachers who ranged from no knowledge at all about various programs to many years' experience in using them. Therefore, **a good portion the items on this questionnaire may appear to be of little relevance or irrelevant to you at this time.** For the completely irrelevant items, please circle "0" on the scale. Other items will represent those concerns you do have, in varying degrees of intensity, and should be marked higher on the scale.

For example:

This statement is very true of me at this time.	0 1 2 3 4 5 6 (7)
This statement is somewhat true of me now.	0 1 2 3 (4) 5 6 7
This statement is not at all true of me at this time.	0 (1) 2 3 4 5 6 7
This statement seems irrelevant to me.	(0) 1 2 3 4 5 6 7

Please respond to the items in terms of your present concerns, or how you feel about your involvement or potential involvement with **this innovation.** We do not hold to any one definition of this program, so please think of it in terms of **your own perceptions** of what it involves. Remember to respond to each item in terms of your **present concerns** about your involvement or potential involvement with the above named innovation.

Thank you for taking time to complete this task.

been prudently refined for specific reasons, the introductory page should be changed only with great care, for any changes could influence responses.

Instrument

This is the instrument itself (see appendix A), a two-page list of the 35 statements, or items, to which the participant responds. Respondents mark each item on a 0–7 Likert scale according to how true the item seems to them at the present time. The 0 at the low end of the scale is recommended for marking items that are completely irrelevant. If the innovation has been sufficiently defined on the introductory page, this part of the questionnaire sometimes does not need any modification at all. If *innovation* is not a familiar term to respondents, however, we recommend replacing the words *the innovation* with a phrase they will recognize, such as the name of the innovation or initiative. **Otherwise, do not change the wording of the items.** Also, the order of the items should not be changed. Research has consistently shown that changing the order of items on a survey changes the responses (Bradburn & Sudman, 1988). Any change to the items risks reliability and validity.

Although the questionnaire is in no way a test, it is important that respondents complete it without consulting anyone. The purpose is to identify the concerns of individuals, not the consensus concerns of several people. Typically, respondents need only 10–15 minutes to complete the questionnaire.

Demographic Page

The final part of the SoC Questionnaire is the demographic page, a sample of which is included in appendix A. This page is used to gather other information about the respondents for both sample description and correlation purposes. The person or group administering the questionnaire will modify, add, or delete questions on this page according to what information is needed. If demographic information is not needed at all, this part of the questionnaire may be omitted. Frequently an open-ended concerns statement will be included on the demographic page. The open-ended statements provide valuable context for interpretation of the SoCQ profile(s).

Administering the SoC Questionnaire

There is no prescribed setting or process for administration of the Stages of Concern Questionnaire (SoCQ). Tehnology allows for multiple methods of data collection (see Dillman, 1999). Although care must be taken regarding changes in administration of any survey (Dillman & Christian, 2005), researchers have collected SoCQ data through a great variety of methods. To date, the instrument has been administered in the following ways:

- Mailed with a deadline for completion and picked up personally by the issuing person or group
- Handed out personally and returned by mail
- Issued and returned by mail
- Issued personally and collected individually
- Administered to groups by a project representative
- Posted on the Internet, with a link to the Web site distributed to the respondents via e-mail

Because of the requirements for confidentiality and informed consent, respondents should not be asked to return the questionnaire to an immediate superior—for example, a teacher should not have to return it to his or her princi-

pal. Such a process might make respondents feel their confidentiality could be compromised. It is acceptable, however, for a superior to distribute the forms if they can be returned anonymously. A stamped, addressed envelope attached to the questionnaire has facilitated returns in the past.

Scoring the SoCQ

Scoring the questionnaire requires calculating raw scores for each of the seven stages, or scales; locating the percentile score for each scale in a table; and plotting the results on the Stages of Concern Profile chart. Usually administrators have a computer program perform those tasks. This manual includes a CD that contains a program for scoring SoCQ data and producing individual and group profiles. Instructions for using the program are in a read-only file on the CD.

The measure also can be hand scored (see appendix B), which is convenient for processing a small number of questionnaires. In addition, the authors strongly recommend that any time a scoring program is used, several questionnaires should be hand scored to verify the computer output.

Also, anyone using software to score the SoC Questionnaire should be aware that no technology will be state-of-the-art for very long. A number of SoCQ scoring programs have been written over the years. The original SoCQ manual (Hall, George, & Rutherford, 1979) contained a FORTRAN program, which lost its usefulness when that computer language became obsolete in the 1980s. As use of the questionnaire continues, researchers will need to create and share new scoring programs.

The questionnaire consists of 35 statements, each expressing a certain concern about the particular innovation. Respondents indicate the degree to which each concern is true for them by marking a number on a 0–7 scale next to each statement. High numbers indicate high concern; low numbers, low concern; and 0 indicates very low concern or completely irrelevant items.

The statements were carefully selected according to concerns theory to represent the seven fundamental Stages of Concern. There are five statements for each stage. Figure 4.2 groups the statements according to the stages to which they correspond.

Handling Missing Item Responses

The raw score for each stage, or scale, is now five times the average of the nonblank responses to the five corresponding statements for the scale. The original scoring procedure treated nonresponse to items the same as a 0 response. The procedure for calculating raw scale scores has been revised to estimate the response to any skipped item as the average of those that were marked for that scale.

Once the seven raw scale scores have been obtained, they usually must be converted to percentile scores before they can be interpreted. Figure 4.3 shows the scale score and the percentile of that score for each of the seven Stages of Concern. The total score, which is simply the sum of the seven raw scale scores, may also be converted to a percentile.

The percentiles are based on the responses of 830 individuals who completed the 35-item questionnaire in fall of 1974. The individuals were a carefully selected stratified sample, from both elementary schools and higher-education institutions, who had a range of experience

Figure 4.2. Statements on the Stages of Concern Questionnaire Arranged According to Stage

Item	Statement
Stage 0	
3	I am more concerned about another innovation.
12	I am not concerned about this innovation at this time.
21	I am preoccupied with things other than this innovation.
23	I spend little time thinking about this innovation.
30	Currently, other priorities prevent me from focusing my attention on this innovation.
Stage 1	
6	I have a very limited knowledge of the innovation.
14	I would like to discuss the possibility of using the innovation.
15	I would like to know what resources are available if we decide to adopt this innovation.
26	I would like to know what the use of the innovation will require in the immediate future.
35	I would like to know how this innovation is better than what we have now.
Stage 2	
7	I would like to know the effect of reorganization on my professional status.
13	I would like to know who will make the decisions in the new system.
17	I would like to know how my teaching or administration is supposed to change.
28	I would like to have more information on time and energy commitments required by this innovation.
33	I would like to know how my role will change when I am using the innovation.
Stage 3	
4	I am concerned about not having enough time to organize myself each day.
8	I am concerned about conflict between my interests and my responsibilities.
16	I am concerned about my inability to manage all the innovation requires.
25	I am concerned about time spent working with nonacademic problems related to this innovation.
34	Coordination of tasks and people is taking too much of my time.
Stage 4	
1	I am concerned about students' attitudes toward this innovation.
11	I am concerned about how the innovation affects students.
19	I am concerned about evaluating my impact on students.
24	I would like to excite my students about their part in this approach.
32	I would like to use feedback from students to change the program.

Figure 4.2. *continued*

Stage 5	
5	I would like to help other faculty in their use of the innovation.
10	I would like to develop working relationships with both our faculty and outside faculty using this innovation.
18	I would like to familiarize other departments or people with the progress of this new approach.
27	I would like to coordinate my effort with others to maximize the innovation's effects.
29	I would like to know what other faculty are doing in this area.
Stage 6	
2	I now know of some other approaches that might work better.
9	I am concerned about revising my use of the innovation.
20	I would like to revise the innovation's instructional approach.
22	I would like to modify our use of the innovation based on the experiences of our students.
31	I would like to determine how to supplement, enhance, or replace the innovation.

with the innovation of teaming or modules. The percentiles in this table have proved to be representative of other innovations. The validity studies reported in Chapter 3 were conducted using these percentiles to interpret concerns about the various innovations described.

Displaying SoCQ Data

SoCQ data can be displayed either graphically or in different kinds of tables. The percentile scores can be displayed for a set of individuals (for example, see Figure 5.1), which allows the administrator to discern both the predominant concerns and the diversity of concerns within the group. For some purposes, it is useful to view the individual item responses, raw scores, and percentile scores for individuals, as in Figure 5.16 (page 51). By far the most common displays of SoCQ data, however, are graphs, or "profiles." These are line graphs in which the percentile scores for each Stage of Concern are connected to create a visual image of the intensity of a single respondent or the average of a group of respondents. Such profiles often greatly assist in the interpretation of SoCQ data. A blank graph that has been specifically designed for SoCQ profile presentations is included as appendix C. To plot an individual or group profile, simply mark each vertical line at the point representing the percentile score for the appropriate Stage of Concern. Then use a straight edge and a pencil to connect the marks. It is recommended that the blank graph from this manual be copied so that all the graphs will have the same framework and scale.

The next section explains in detail how to interpret the percentile scores. For statistical analyses, we strongly encourage the use of the raw scores. Conversion to percentiles greatly affects the distribution of the scores, tending to make the distribution rectangular. Statistical tests then are less accurate than they would be with raw scale scores, because of violations of assumptions on which the tests are based.

Figure 4.3. Stages of Concern Raw Score: Percentile Conversion Chart for the Stages of Concern Questionnaire

Raw Scale Score	Percentile Scores						
	0	1	2	3	4	5	6
0	0	5	5	2	1	1	1
1	1	12	12	5	1	2	2
2	2	16	14	7	1	3	3
3	4	19	17	9	2	3	5
4	7	23	21	11	2	4	6
5	14	27	25	15	3	5	9
6	22	30	28	18	3	7	11
7	31	34	31	23	4	9	14
8	40	37	35	27	5	10	17
9	48	40	39	30	5	12	20
10	55	43	41	34	7	14	22
11	61	45	45	39	8	16	26
12	69	48	48	43	9	19	30
13	75	51	52	47	11	22	34
14	81	54	55	52	13	25	38
15	87	57	57	56	16	28	42
16	91	60	59	60	19	31	47
17	94	63	63	65	21	36	52
18	96	66	67	69	24	40	57
19	97	69	70	73	27	44	60
20	98	72	72	77	30	48	65
21	99	75	76	80	33	52	69
22	99	80	78	83	38	55	73
23	99	84	80	85	43	59	77
24	99	88	83	88	48	64	81
25	99	90	85	90	54	68	84
26	99	91	87	92	59	72	87
27	99	93	89	94	63	76	90
28	99	95	91	95	66	80	92
29	99	96	92	97	71	84	94
30	99	97	94	97	76	88	96
31	99	98	95	98	82	91	97
32	99	99	96	98	86	93	98
33	99	99	96	99	90	95	99
34	99	99	97	99	92	97	99
35	99	99	99	99	96	98	99

Chapter Five
Interpretation of Stages of Concern Questionnaire Data

After they have been collected and processed, Stages of Concern Questionnaire (SoCQ) data can be interpreted at several different levels of detail and abstraction. The simplest form of interpretation is to identify the highest stage score (Peak Stage Score Interpretation). Examining both the highest and second highest stage scores (First and Second High Stage Score Interpretation) makes a more detailed interpretation possible. Analyzing the complete profile allows for the most sensitive interpretation of respondents' concerns (Profile Interpretation). A rich clinical picture can be developed by examining the percentile scores for all seven stages and interpreting the meaning of the highs and lows and their interrelationships. Although interpretation of profiles requires some study and practice, in general the process is fairly easy to understand.

Regardless of the interpretation procedure, caution must be taken in accepting an interpretation as the final truth. The interpretations are only as good as the measure, the genuineness of the participants' responses, and the skill of the interpreter. Therefore, all interpretations must be treated as hypotheses to be confirmed by the respondents, with their confirmation or rejection used to adjust and adapt the hypotheses.

Interpretation of the peak scores, the first and second highest scores, and profiles can all be done with individual or group data. Obviously, the larger the group, the less sensitive to individual differences the interpretation will be. With any of these methods, the interpretation can be compared with the demographic data items. In some instances, the demographic data will help explain why concerns at certain stages are more or less intense. If an open-ended concerns statement has been included on the demographic data sheet, it can provide useful context for SoCQ interpretations.

This chapter includes sections that deal in depth with each of the interpretation procedures. Sample data and analyses are presented. The discussion unfolds from the simpler analyses to the more complex. By beginning with the straightforward procedures outlined, a full description of the concerns of the respondents can be developed. The more intricate assessments can be mastered with experience and by checking out hypothesized interpretations with respondents. Of course, psychological knowledge and training can be useful tools for interpreting more complex cases.

Peak Stage Score Interpretation

The procedure for analyzing SoCQ data by means of peak scores is similar for both individual and group data. Simply chart each stage percentile score, as illustrated in Figure 5.l. The highest stage scores for each individual can be quickly identified, and it is often useful to circle these scores, as Figure 5.1 shows. If another stage score is within one or two percentile points of the highest score, both scores can be circled. Note that the total score is not used in this interpretation procedure. For more information about the total score, see page 49.

Interpretation of the peak score is based directly on the Stages of Concern About an Innovation definitions presented as Figure 2.1. The percentile score indicates the relative intensity of concern at each stage. The higher the score, the more intense the concerns are at that stage. The lower the score, the less intense the concerns at that stage. *The percentile figures are not absolute; instead they are relative to the other stage scores for that individual.* For example, a 51st percentile might be one person's highest score and, therefore, most intense Stage of Concern, whereas the same percentile might be another person's lowest stage score and least intense Stage of Concern.

In Figure 5.1, the highest Stage of Concern for the first individual listed is Stage 4, which has an 86th percentile score. This peak score suggests that the individual is most concerned about the

Figure 5.1. Listing of Individual Stages of Concern Percentile Scores*

	10	5	41	47	(86)	80	65
	46	63	80	(94)	71	76	60
	10	5	45	73	82	(93)	(92)
	53	5	14	(90)	13	10	30
	31	55	51	54	73	(77)	63
	11	42	15	6	30	(87)	12
	37	4	4	25	78	39	(87)
	43	19	54	57	(83)	69	81
	(99)	96	92	92	90	64	26
	(77)	63	48	15	2	16	2
	(97)	(99)	87	83	13	16	3
	37	(91)	35	2	9	72	11
	81	(97)	59	27	33	55	34
	(99)	(99)	96	85	86	72	52
	(98)	(99)	85	97	63	52	84
	10	30	5	47	66	(95)	34
	52	54	51	56	55	61	46

* These are actual SoCQ profiles of concerns reported by teachers adopting a new science curriculum. You will note that some teachers have two scores circled. These represent what is essentially a tie (a difference of only 1 or 2 points) for the person's most intense Stage of Concern.

consequences of the innovation, the effects it will have on his or her students. (See the Stages of Concern definitions in Figure 2.1.) Other peak stage scores can be interpreted directly from the SoC definitions, as in the previous example.

Stage 0 scores provide an indication of the degree of priority the respondent is placing on the innovation and the relative intensity of concern about the innovation. Stage 0 does not provide information about whether the respondent is a user or nonuser; instead Stage 0 addresses the degree of interest in and engagement with the innovation in comparison to other tasks, activities, and efforts of the respondent. A low score on Stage 0 is an indication that the innovation is of high priority and central to the thinking and work of the respondent. The higher the Stage 0 score, the more the respondent is indicating that there are a number of other initiatives, tasks, and activities that are of concern to him or her. In other words, the innovation is not the only thing the respondent is concerned about. Demographic data and outside judgment are needed to determine whether an individual is using the innovation.

A high score in Stage 1 (Informational) indicates that the respondent would like to know more about the innovation. People with high Stage 1 concerns simply want more information. They are not concerned about "nitty-gritty" details but, rather, want fundamental information about what the innovation is, what it will do, and what its use will involve. Stage 1 concerns are substantive in nature, focusing on the structure and function of the innovation. The score in this stage does not indicate how much knowledge or understanding respondents have. It indicates whether they want to know more.

Stage 2 (Personal) concerns deal with what Frances Fuller (1969) referred to as *self* concerns. A high Stage 2 percentile score indicates ego-oriented questions and uncertainties. Respondents are most concerned about status, rewards, and what effects the innovation might have on them. A respondent with relatively intense personal concerns might, in effect, block out more substantive concerns about the innovation.

In many SoCQ studies, researchers have found high correlations between Stage 1 and Stage 2 scores, leading them to advocate combining these into one stage (Bailey & Palsha, 1992; Cheung, Hattie, & Ng, 2001; Shotsberger & Crawford, 1999). During the development of the original SoCQ, the authors also found high correlations between these two scales. Work with individual Stages of Concern profiles, however, demonstrated that there was a clear distinction between the two scales for certain individuals. The CBAM research team concluded that the concepts of Informational and Personal concerns are indeed distinct, even though they often occur at the same time, and respondents with higher concerns on other stages often simultaneously have low scores for both Stage 1 and Stage 2. Separate Stage 1 and Stage 2 scores are necessary for correctly interpreting individual respondents' concerns and, subsequently, providing appropriate interventions. (This is discussed in greater detail below.)

A high Stage 3 (Management) score indicates intense concern about management, time, and logistical aspects of the innovation. Descriptions

Figure 5.2. Frequency of Highest Concerns Stage for the Individuals Displayed in Figure 5.1

Highest Stage of Concern								
	0	1	2	3	4	5	6	Total
Number of Teachers	4	4	0	2	2	3	1	16
Percent of Teachers	25	25	0	12.5	12.5	18.8	6.2	100

and interpretations of peak scores on Stages 4 (Consequence), 5 (Collaboration), and 6 (Refocusing) follow directly from the definition of each stage, found in Figure 2.1. The higher the score, the more intense the concerns are on that stage.

Group Data

There are two recommended ways to display group data. One way, illustrated in Figure 5.2, is to tally for each stage the number of individuals who had their peak scores there. This method provides a concise display of the distribution of peak stage scores within a group.

Another way to display group data is to combine individual data by developing a profile that presents the mean percentile scores of the individuals in a group. Examples of groups are the teachers in one grade level in a school or school district or the faculty members in one department of a college. This is illustrated by the bottom row in Figure 5.1.

The authors recommend against averaging percentile scores, because such averaging allows the extreme values to influence the results more than might be appropriate. The proper procedure is to average the raw scores for each Stage of Concern and refer those averages to the percentile score table. In addition, the authors recommend that users of the SoC Questionnaire always use the raw scale scores in statistical analyses.

Normally, group averages will reflect the dominant high and low Stages of Concern of the composite group. The individual highs also should be checked, however, in case there are distinct subgroups. This is where the first treatment of group data, the frequency count of high stage scores, is beneficial. Averaging across the group sometimes obscure high peak scores of the individuals in the group. This is the case in Figure 5.1, where there are individuals with a variety of high and low scale scores but the overall average is essentially flat.

First and Second Highest Stage Scores Interpretation

To develop additional insight into the dynamics of concerns, the second highest stage score can be analyzed in addition to the peak score. Again, this analysis can be done either with individual or group data.

Because of the developmental nature of concerns, the second highest Stage of Concern often will be adjacent to the highest one. That is, if an individual's highest score is on Stage 3, his or her second highest score frequently will be on Stage 2 or Stage 4. Noting the relation of the highest and second highest stages will let the interpreter know whether this general pattern is present. As with the peak stage, the higher the score, the more intense the concerns are at that stage. Analysis of the second highest stage score for

Figure 5.3. Percent Distribution of Second Highest Stage of Concern in Relation to First Highest Stage of Concern

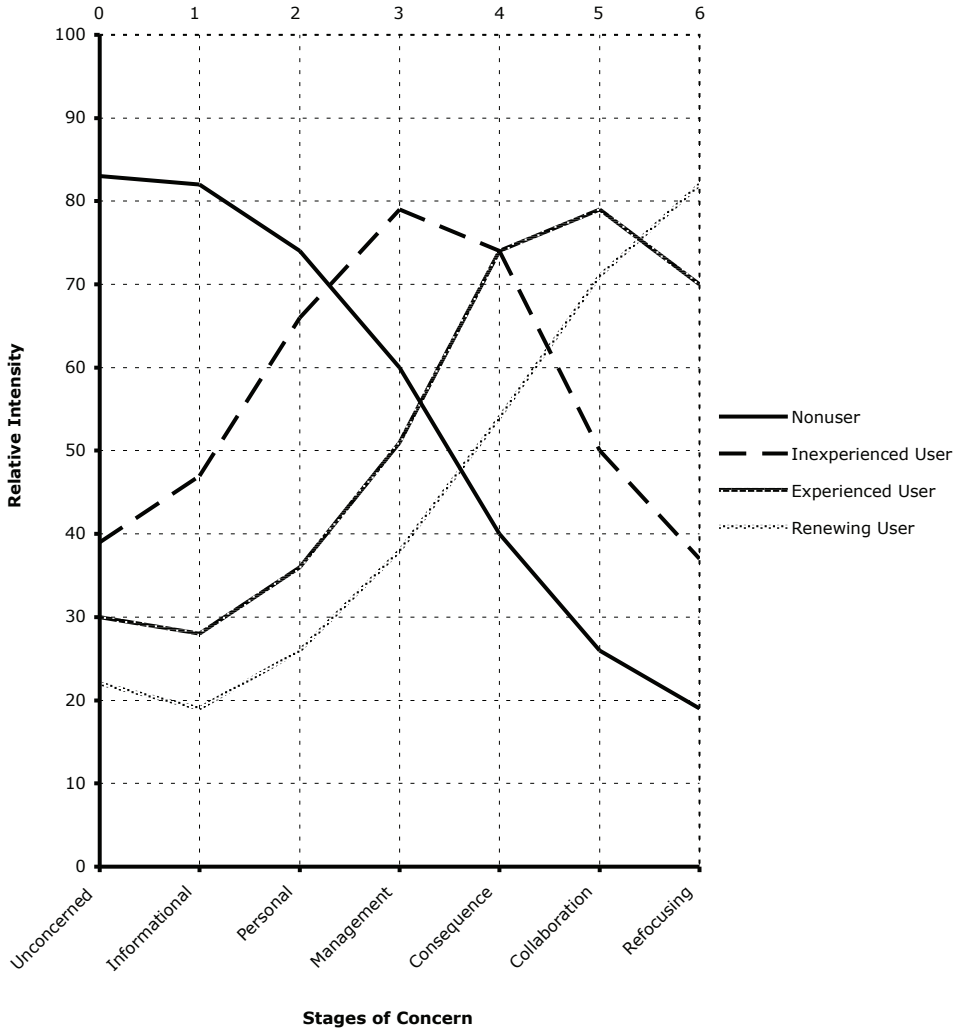
Highest Stage of Concern	Second Highest Stage of Concern								
	0	1	2	3	4	5	6	Row Pct.	Row No.
0 Unconcerned	0	9	22	28	16	3	22	20	32
1 Informational	0	0	50	0	0	0	50	1	2
2 Personal	28	28	0	6	11	0	28	11	18
3 Management	7	3	20	0	10	0	57	18	30
4 Consequence	10	5	35	10	0	30	10	12	20
5 Collaboration	9	0	36	0	36	0	18	7	11
6 Refocusing	6	6	24	20	41	2	0	30	49
								Total	**162**

an individual is reasonably straightforward. For example, in Figure 5.1, the last individual listed scored highest on Stage 5 and second highest on Stage 4. This individual is intensely concerned about working with others (her or his colleagues) in relation to the innovation. The second highest Stage 4 concerns indicate that the respondent also is concerned about the consequences and effects the innovation will have on students. Across a group, however, there are bound to be individuals who do not conform to that general pattern. For example, there can be individuals who score highest on Stage 4 and second highest on Stage 1. Although some of the possible combinations are not very likely, all are conceivable.

A common nonadjacent combination of highest and second highest scores is a person who scores highest on Stage 3 and second highest on Stage 6. Individuals with this combination are concerned about management of the innovation (high Stage 3) and have some ideas about how to change their use or the innovation itself (second high Stage 6). Individuals who score high on Stage 3 and low on Stage 6 do not have ideas about what to do and are apt to be stuck with their time and efficiency problems. A common adjacent combination is for individuals who score highest on Stage 3 to have their second highest concerns on Stage 2. That arrangement might indicate that respondents have uncertainty and doubt about whether they can master the innovation. In some cases, it reflects a fear of losing one's job.

With group data, it is sometimes useful to develop a matrix that cross-tabulates each individual's highest and second highest Stage of Concern. One example of this approach is presented in Figure 5.3, where the highest Stage of Concern for most individuals tends to be Stage 0, 3, or 6. That indicates that many of these individuals are not sure what the innovation is (Stage 0—Unconcerned), others are most concerned about the time and/or management it will require (Stage 3—Management), and a large group have

Figure 5.4. Hypothesized Development of Stages of Concern



ideas about how to change the innovation or do something else instead (Stage 6—Refocusing). Altogether, it appears that the implementation of this innovation is experiencing difficulty at this point. To identify the most frequent second highest Stage of Concern, select one of the highest stages from the left-hand column and read across. The frequencies listed show how the individuals were distributed on their second highest stages. For example, the individuals who scored highest on Stage 6 scored second highest on Stage 4 (41%), Stage 2 (24%), or Stage 3 (20%), accounting for 85% of the individuals.

On the basis of the second highest stage scores, the authors infer that individuals with high Stage 6 concerns appear to fall into three groups:

- Those who have very high concerns about effects of the innovation on students (second highest score is Stage 4)
- Those who are very highly concerned about the effect on themselves (second highest score is Stage 2)
- Those who are very busy, either with the innovation itself or, as is often the case, with other job demands (second highest score is Stage 3)

The second highest stage reveals distinctly different concerns among those who would like to modify the innovation or do something different. Different staff development activities for individuals with those distinct types of concerns would likely be appropriate.

Identification of the highest and second highest Stages of Concern combinations makes for a straightforward analysis and presentation that also reflects the complexity of concerns data. Other highest–second highest combinations are discussed in the Guidelines section on page 52 of this chapter.

Profile Interpretation

The profile analysis is the richest and most frequently used method for interpreting data from the SoCQ. Like all the SoCQ interpretation methods, profile interpretation, for either individual or group data, is based on the Stages of Concern definitions presented in Figure 2.1. Hypothetically, as individuals move from nonuse and scant awareness of an innovation to beginning use and, eventually, more highly sophisticated use, their concerns move through the defined stages. They begin with their concerns being most intense at Stages 0, 1, and 2, then shift to Stage 3, and ultimately register their highest levels of concern at Stages 4, 5, and 6. If the innovation is appropriate and well designed and if there is adequate support for its implementation, an individual's concerns profile plotted over time should look like a wave moving from left to right, as illustrated in Figure 5.4. Determining where an individual is in this development sequence can best be accomplished through interpretation of the complete concerns profile.

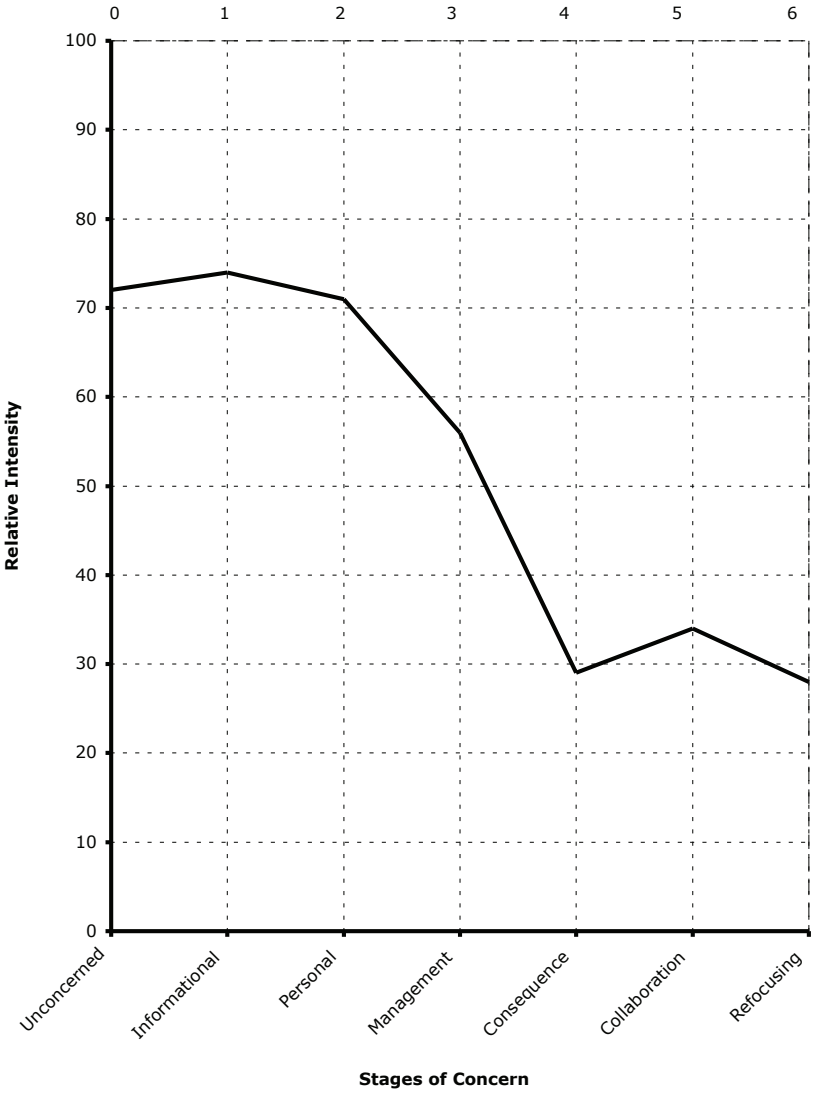
Analysis of concerns profiles—through looking at either a tabular listing of percentile scores or the plots of those scores on a graph—provides the most complete clinical interpretation and assessment of both individual and group data. Using clinical interpretation techniques, an interpreter can gain a great deal of insight, not only into the types of concern that are most intense and least intense, but also into the affective stance that the respondent is taking toward the innovation. These profile data also provide direction and clues for the design of interventions to help move participants to the next developmental stage of the innovation.

This section describes typical SoCQ profiles; elaborates on the use of Stage 0 scores, total scores, individual item analyses, and comparisons with demographic and other data; and offers guidelines to help the reader interpret subtleties and interactions that can occur across the Stages of Concern.

Typical Nonuser SoCQ Profile

Probably the most readily identified concerns profile is that of the nonuser. In all the research that has been done using the Stages of Concern Questionnaire, the nonuser profile stands out most clearly and consistently. Nonusers' concerns normally are highest on Stages 0, 1, and 2 and lowest on Stages 4, 5, and 6. There is

Figure 5.5. Typical Nonuser SoCQ Profile

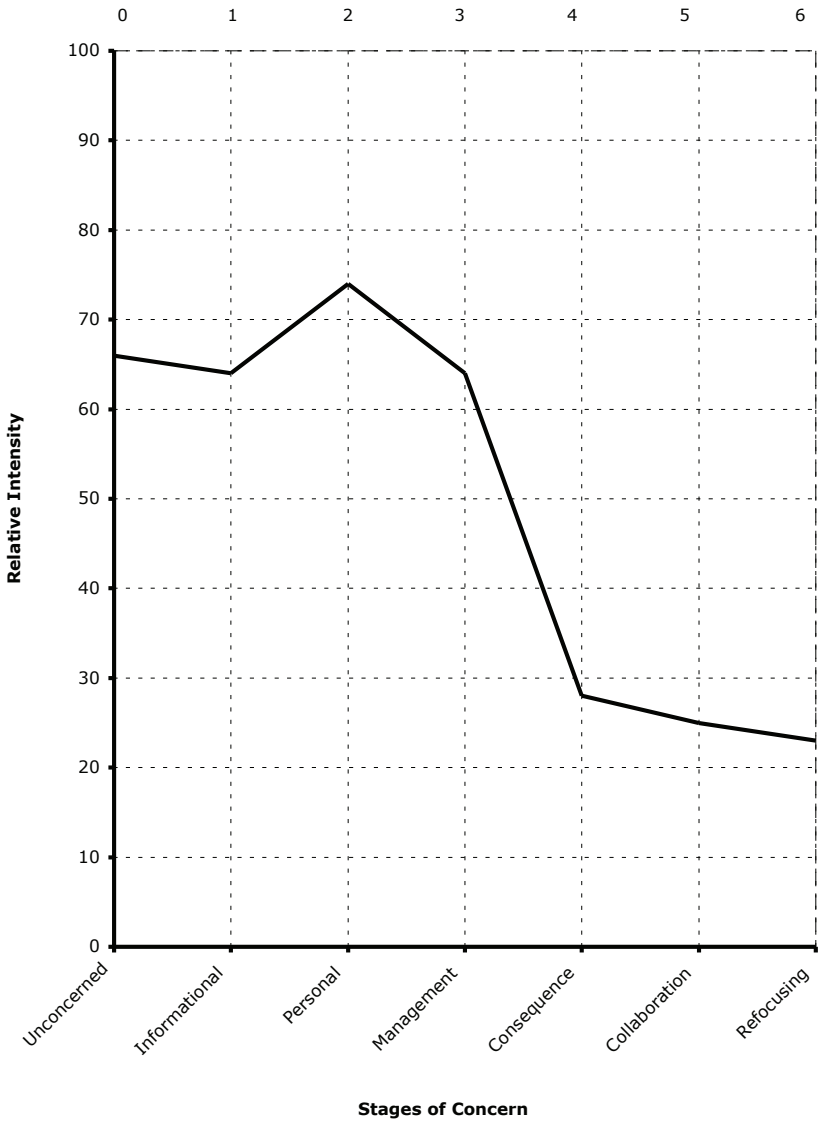


some variation in the amount of intensity of these concerns, depending on the innovation and the situation. The general pattern of the concerns when plotted is shown in Figure 5.5.

Among nonusers, variations in Stage 0 do not seem to be as important as variations in Stages 1 and 2 are. It is necessary to closely check the relative position of Stages 1 and 2 and also the relative position of Stage 6 to understand characteristic differences in the nonuser profile.

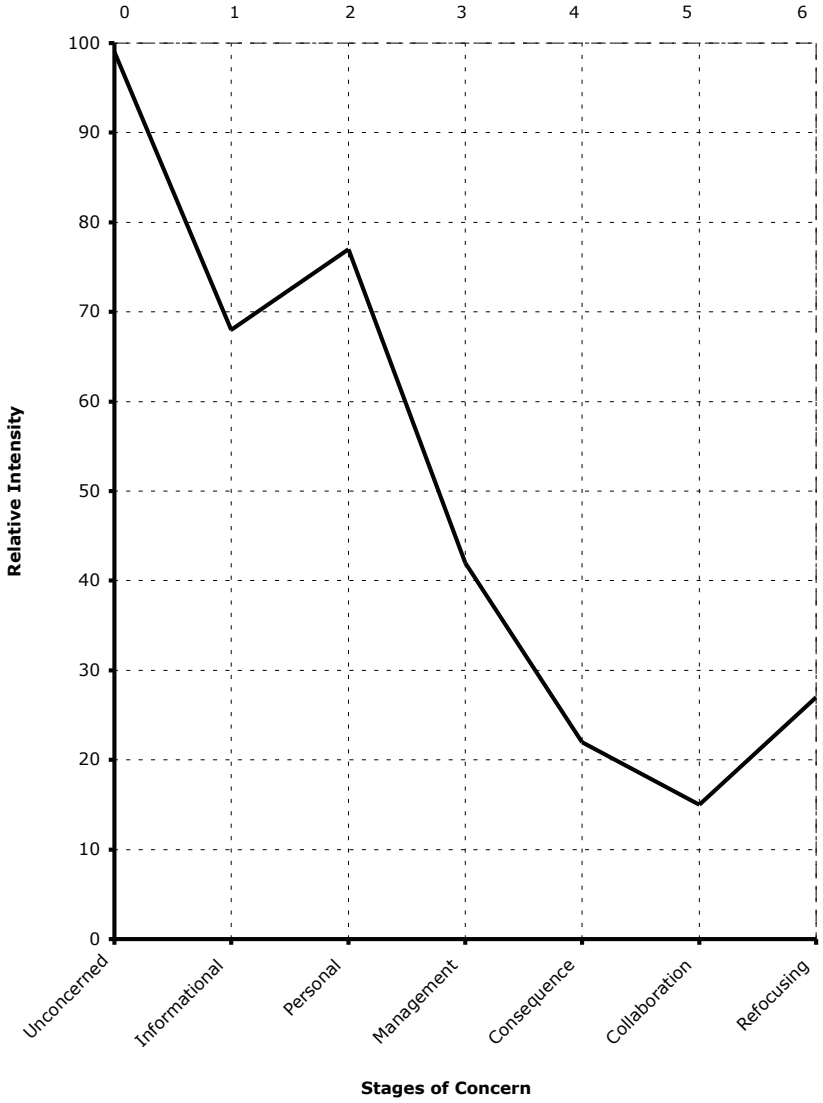
The profile illustrated in Figure 5.5 shows an individual who is not fully aware of the innova-

Figure 5.6. Negative One–Two Split



tion and is somewhat more concerned about other things (Stage 0). Because Stages 1 and 2 are also high, however, it can be inferred that the individual is interested in learning more about the innovation. This individual does not have significant Management concerns (signified by medium intensity on Stage 3) and is not intensely concerned about the innovation's consequences for students or for collaborating with others (low intensity on Stages 4 and 5). The low, tailing-off Stage 6 score suggests that the individual does not have other ideas that would be potentially competitive with the innovation. The overall profile suggests and reflects the interested, not terribly overconcerned, positively disposed nonuser.

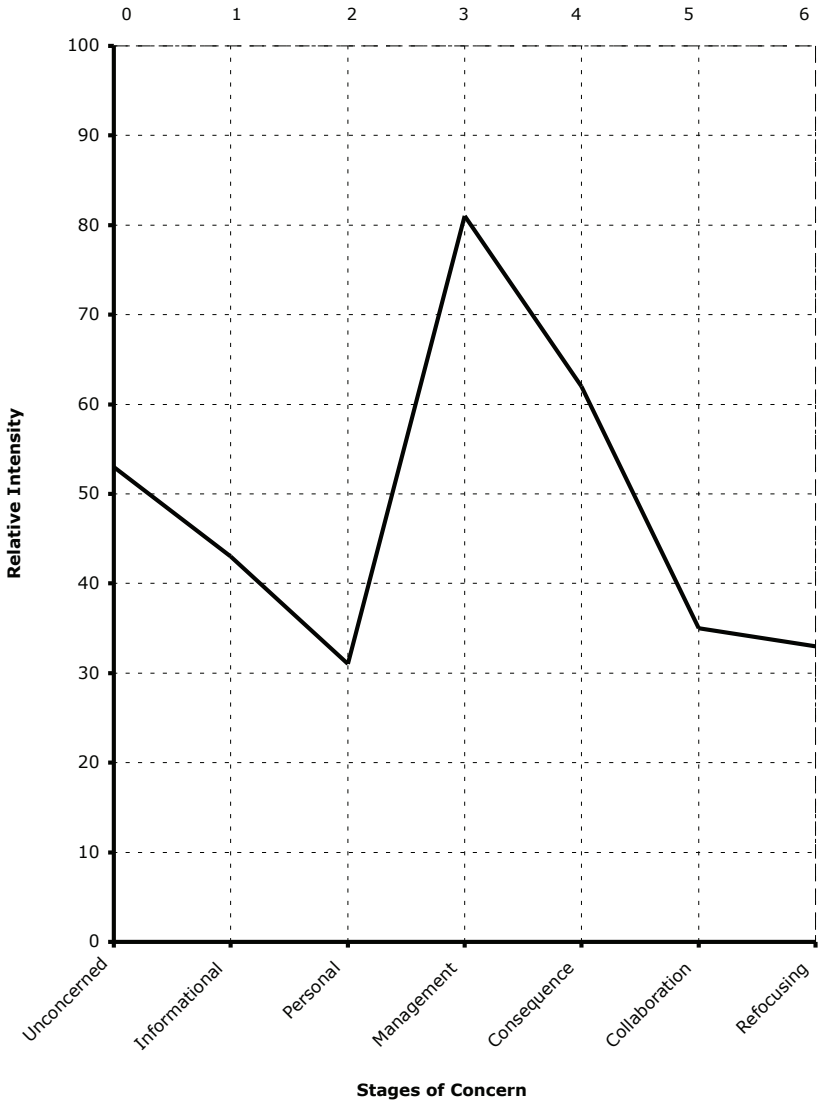
Figure 5.7. Negative One–Two Split with Tailing Up at Stage 6



The relationship between the Stage 1 and Stage 2 scores can be very important. If the scores are very different, the profile is said to have a one–two split, the *one* referring to Stage 1, and the *two*, to Stage 2. When the Stage 1 score is distinctly higher than the Stage 2 score, the individual probably has a positive, proactive perspective, with little fear of the personal effects a specified innovation might have. That is a "*positive* one–two" split. This person is open to and interested in learning more about the innovation.

A "*negative* one–two split" occurs when the Stage 2 score is higher than the Stage 1 score, as shown in Figures 5.6 and 5.7. Those profiles depict individuals with various degrees of doubt and potential resistance to an innovation. When Stage 2 concerns override Stage 1 concerns, the

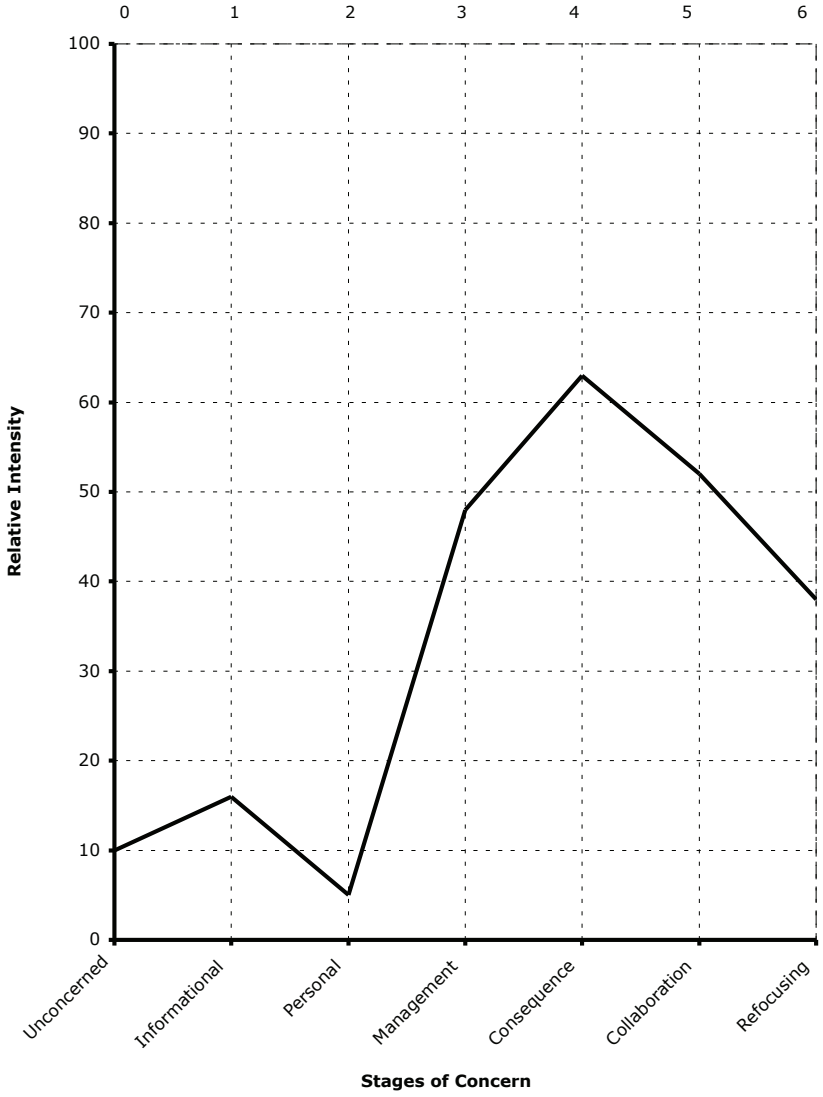
Figure 5.8. Intense Management Concerns Profile



concerns about an innovation's effect on personal position or job security usually are greater than the desire to learn more about the innovation. Experience indicates that when general, nonthreatening attempts are made to discuss an innovation with a person with this profile, the high Stage 2 concerns are intensified and the Stage 1 concerns are further reduced. An individual with this kind of profile probably will not be able to consider a proposed innovation objectively until his or her personal Stage 2 concerns are reduced.

The tailing-up of Stage 6 on the typical nonuser profile in Figure 5.7 provides additional information about the attitude of the respondent toward the innovation. When Stage 6 tails off or down at

Figure 5.9. Consequence Concerns Profile



the end of a nonuser's curve, as in Figure 5.5, it usually means that the respondent does not have ideas that would potentially compete with the innovation. When Stage 6 concerns tail up, as in Figure 5.7, one can infer that the respondent has ideas that he or she sees as having more merit than the proposed innovation. The Stage 6 tailing-up needs to be only 7–10 percentile points to be detectable in terms of the overall concerns of the individual. Thus, any tailing-up of the Stage 6 concerns on a nonuser profile is a warning that the respondent might be resistant to the innovation. A more severe tailing-up should be heeded as an alarm.

Typical Single-Peak User Profiles

Most concerns profiles have a single peak at either Stage 3, 4, 5, or 6. In general, profile interpretations can be based heavily on the definition of the stage that has the highest score. In many cases, the second highest stage score will be considerably lower than the highest one. Normally, if the second highest score is more than 20 percentile points below the highest, it does not account for very many of the intense concerns of the respondent. If certain stage scores are dramatically low, the individuals are reporting that they have minimal or no concerns in those areas.

In Figure 5.8, for example, Stage 3 (Management) concerns are relatively intense. The respondent is indicating a high level of concern about time, logistics, or other managerial problems related to the innovation. The respondent also is somewhat concerned about students (medium Stage 4), but not concerned about working with others (low Stage 5). He or she does not have intense personal concerns about the innovation (low Stage 2).

The concerns of the respondent in Figure 5.9 are highest on Stage 4; that is, he or she is most intensely concerned about the impact of the innovation on students. The lower scores for Stage 3 and Stage 5 suggest that the individual is not very concerned about management of the innovation or about working with others. The very low Stage 1 and extremely low Stage 2 scores indicate there is very little concern about obtaining additional information about the innovation, and even less about the personal effects the change might have.

A profile that peaks at Stage 5, as illustrated in Figure 5.10, indicates the respondent is very interested in working with his or her colleagues or others in coordinating use of the innovation. This concerns profile is typical of people, such as team leaders, who spend a considerable amount of time coordinating the work of others.

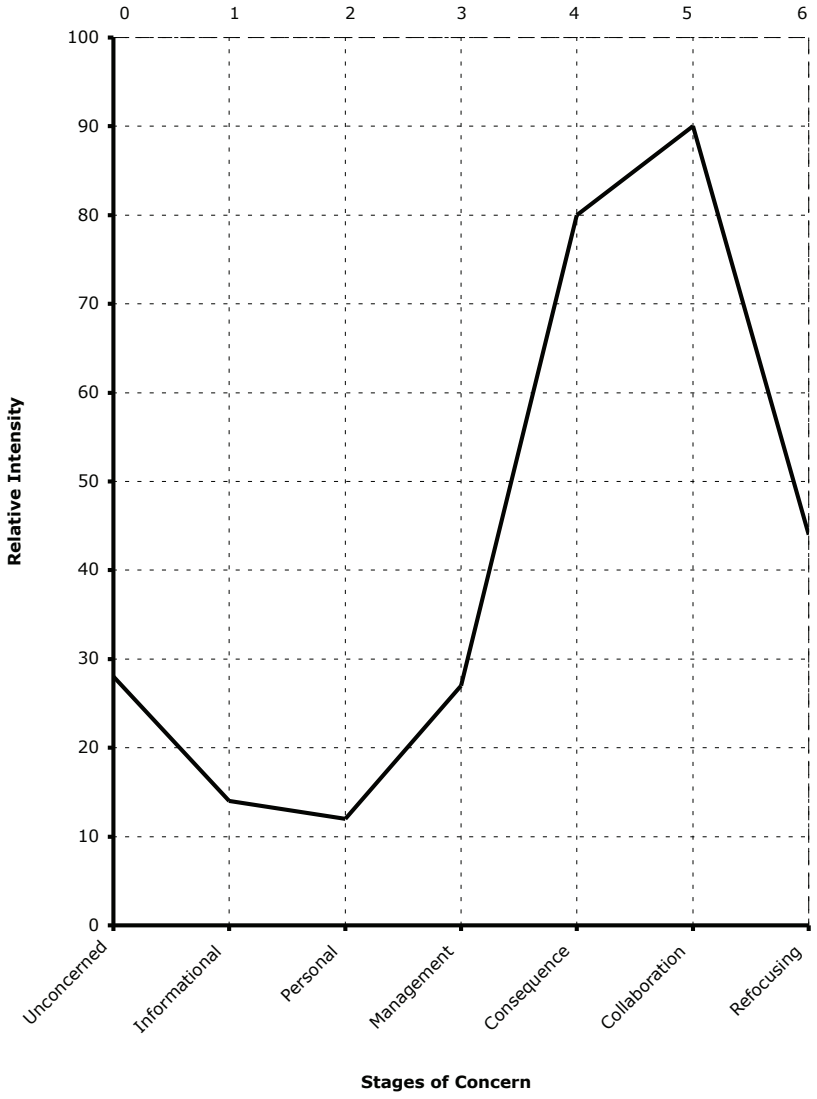
In contrast, many full-time administrators who have high Stage 5 concerns tend to score lower on Stage 4, as illustrated in Figure 5.11. This type of profile indicates a lack of concerns about the direct effects of the innovation on students. The SoCQ interpreter might want to use information, such as job title, collected from the demographic page, to determine whether a respondent is indeed either a team leader or administrator. In any case, the interpretation is straightforward, with the high Stage 5 score indicating that the individual's most intense concerns about the innovation are about coordinating with others in using it.

In general, profiles that peak on Stage 6 (see Figure 5.12) indicate that the respondent not only is concerned about obtaining other ideas about an innovation, but also already has other ideas. In many cases, people with a high level of Stage 6 concerns have ideas that would either drastically alter or completely replace the innovation. Because these individuals typically have rather intense student-oriented concerns, their Stage 4 scores might also be relatively high. In general, their Stage 0, 1, and 2 scores are quite low.

Typical Multiple-Peak User Profiles

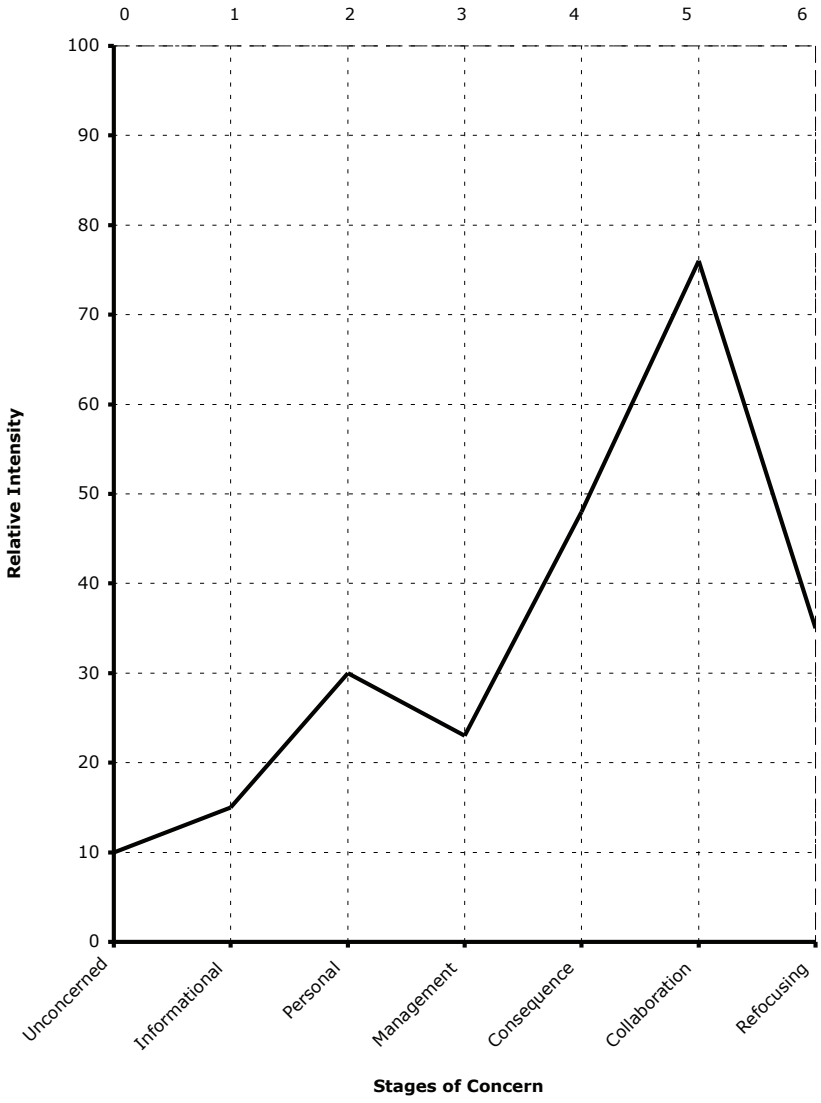
Multiple peaks are not as common as one might expect, although there are a few combinations

Figure 5.10. High Collaboration and Consequence Concerns Profile



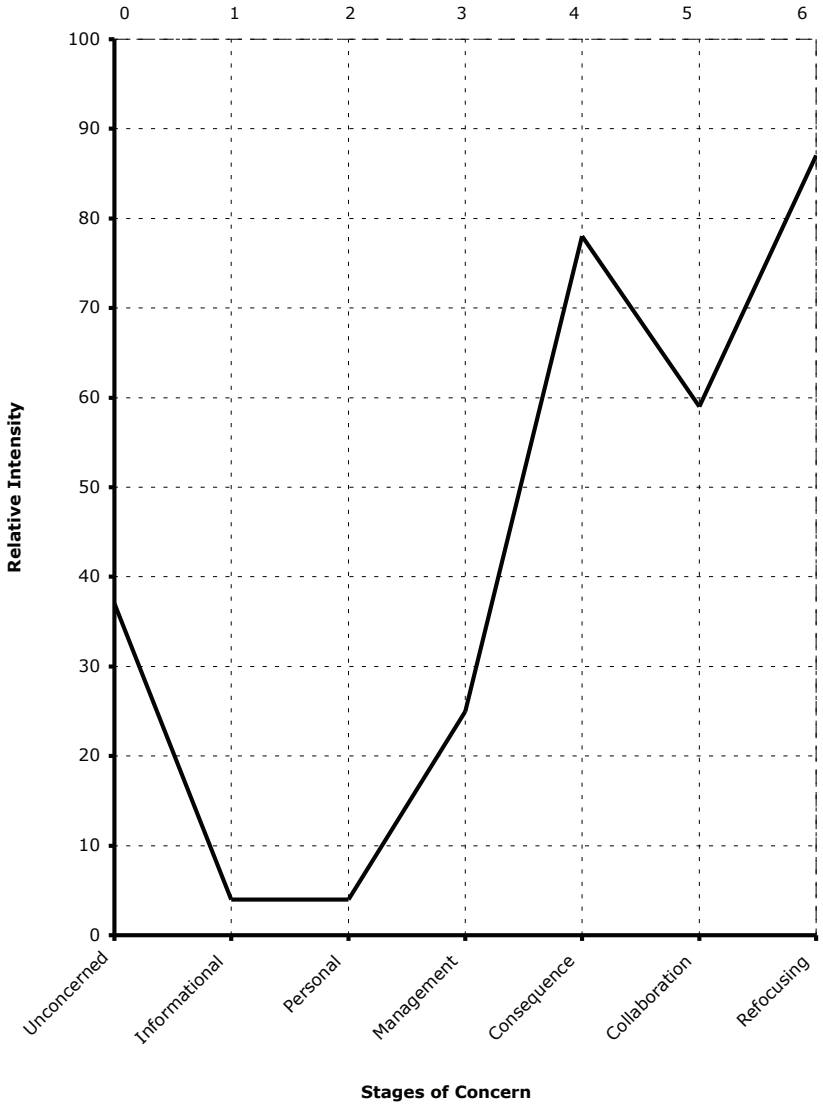
that occur frequently. One common occurrence of multiple peaks is the profile with high Stage 3 and Stage 6 scores (as shown in Figure 5.13). Those are individuals who have intense Management concerns (Stage 3) but also have strong ideas about how the change process should be different (Stage 6—Refocusing). The high Stage 3–high Stage 6 respondents contrast sharply with those who score high on Stage 3 but low on Stage 6, as the latter individuals do not have clear ideas about doing things differently. If their Management concerns seem insurmountable, the high Stage 3–low Stage 6 individuals might also have relatively high Stage 2 (Personal) concerns. (Stage 2 concerns tend to be lower in individuals with high scores on both

Figure 5.11. Single High Collaboration Concerns Profile



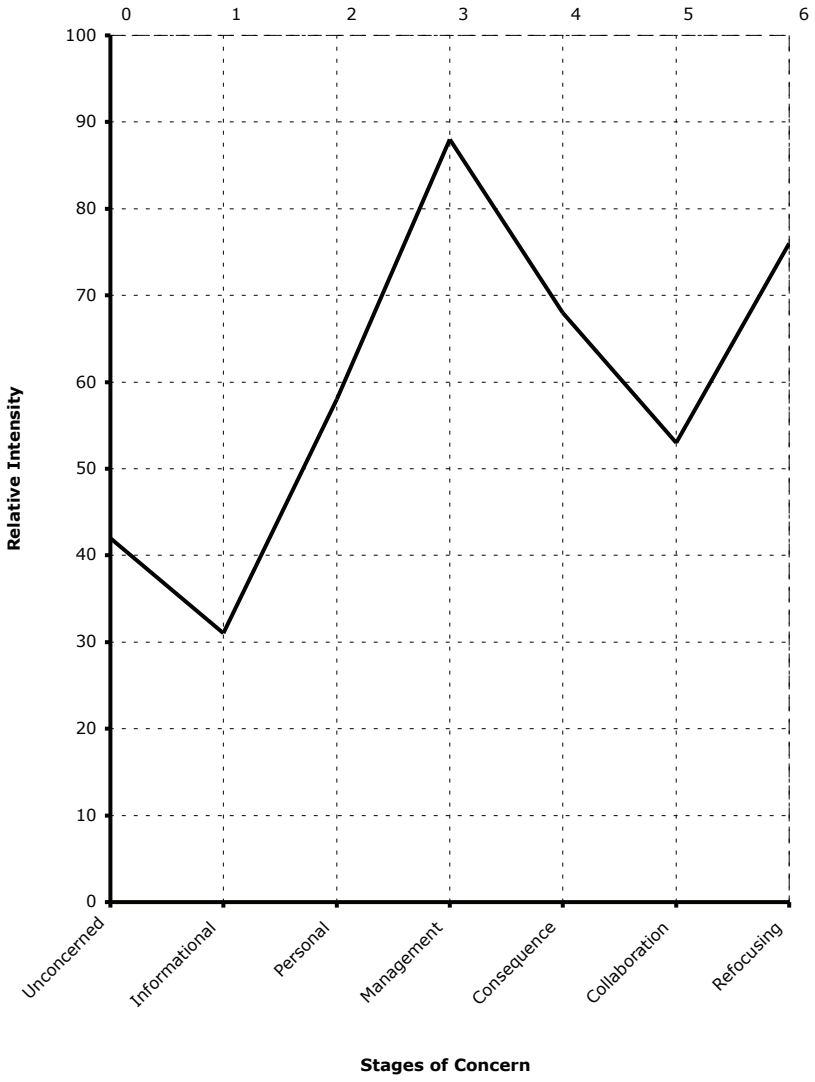
Stage 3 and Stage 6.) There is another important interpretation clue, however, in the Figure 5.13 profile. Notice that the Stage 2 (Personal) concerns in this case are much higher than the Stage 1 (Informational) concerns. This is the negative one–two split. Although this individual has more intense Management and Refocusing concerns (i.e. low Stage 3, but high Stage 6), his or her personal concerns could interfere with the desire to learn more about the innovation. Another common multiple-peak profile is that of the highly involved user who is concerned about the broad-range impact of the innovation. Figure 5.14 displays the concerns profile of a full professor who was both an experienced user of instructional modules and the coordinator of

Figure 5.12. High Refocusing Concerns Profile



a teacher education program involving 10–15 other faculty members. The program participants were revising instructional modules to improve learning. The professor was responsible for coordinating that revision, in addition to overseeing regular program activities. The high Stage 4, 5, and 6 scores reflect the professor's Impact concerns about his various responsibilities. It is interesting to note the very low Stage 0, 1, and 2 scores in Figure 5.14. The person is very interested in the innovation—that is, not unconcerned (low Stage 0). A low Stage 1 score indicates that the respondent has little interest in learning about the innovation. In a nonuser

Figure 5.13. Profile of High Management Concerns With Ideas

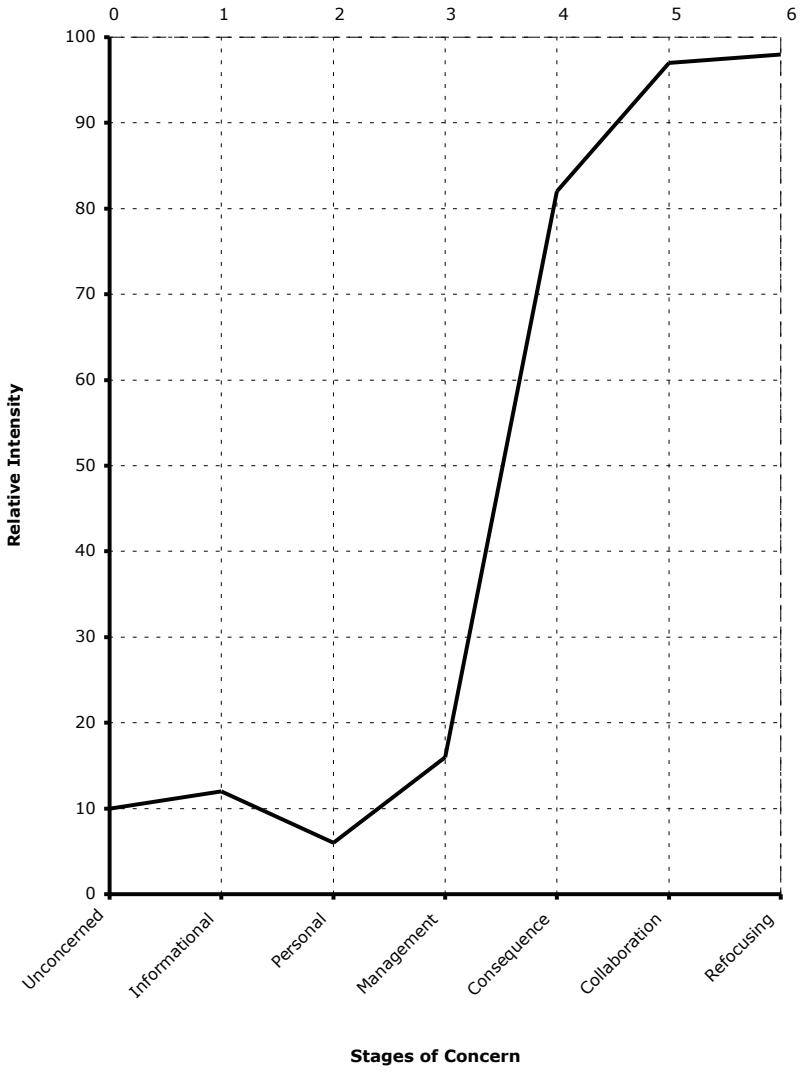


or beginning user, such a score can reflect a low level of awareness or interest. In this case, however, the score is low because the person is so knowledgeable about the innovation that there is nothing else for him to learn. The professor's low Stage 2 scores indicate accurately that he is very comfortable with the innovation.

Stage 0 Score

As mentioned earlier in this chapter, the interpretation of Stage 0 scores previously was not as straightforward as the interpretation of other stage scores. However, revisions to both the items on this stage and the norms, undertaken for this publication, should make the interpretation of this

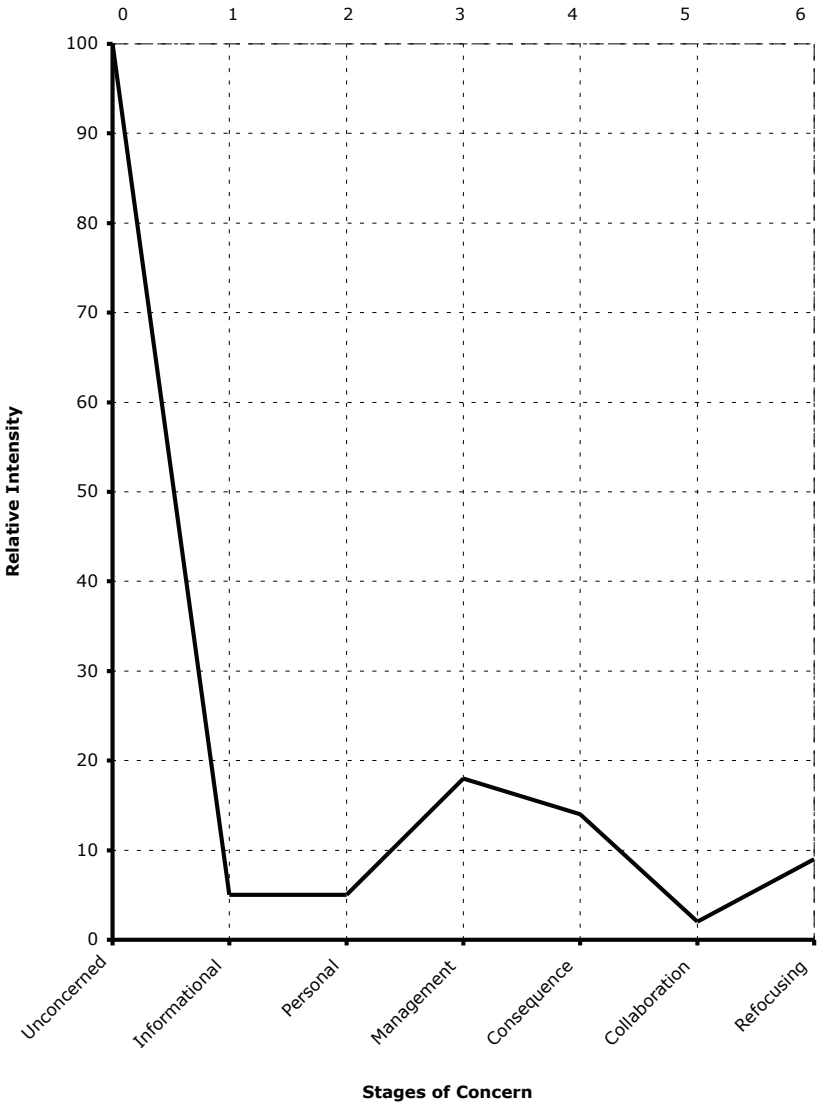
Figure 5.14. Profile of Impact-Concerned User and Coordinator



stage less ambiguous. The authors expect Stage 0 scores to indicate the degree of interest in the innovation at this time (as shown in Figure 5.15). We expect users of the innovation to interpret these items in the same way as nonusers, as the items do not include content relative to use or knowledge of the innovation (see Figure 4.2).

A low score on Stage 0 indicates that the individual views the innovation as an important part of his or her work. The higher the Stage 0 score, the higher the indication that other things, innovations, or activities are of greater concern than the innovation under consideration with the SoCQ.

Figure 5.15. Unconcerned Innovation User



Total Score

The total score has not been referred to in any of these sample analyses, because it does not have a unique meaning and generally has not been associated with any aspect of innovation adoption. Because concerns are developmental in nature, individuals tend to score high on one or two stages and low on the others. Thus, the total score is usually in the same range; for example, a person who has a high Stage 6 score and another person who has a high Stage 1 score will have a similar total score. The total score is sensitive only to more extreme response patterns. That is, someone who marks many items as being of high concern

will have a high total score, whereas someone who marks most of the items as being of little concern or irrelevant will have a low total score.

An extremely high or low total score will be revealed in the placement of the line across the concerns profile. On occasion, extremely high or low total scores reveal that the respondent did not read the items, but instead simply marked items along one side of the column or the other. The stage scores and individual item responses, however, should reveal the care with which an individual completed the questionnaire, as well as the respondent's highest concerns. Having a variety of examples of what appear to be hasty or capricious responses, the authors have attempted without success to develop algorithms to indicate how carefully individuals responded to the individual items. However, it has been difficult to separate the unusual but sincere responses from the hasty responses, based on pattern analyses or item–scale correlations within a single respondent. Thus, we do recommend excluding unusual responses from your data sets.

Individual Item Analyses

Analyses of individual item responses can sometimes provide valuable insights. For example, Figure 5.16 illustrates three people's responses to individual items. Several rules can be applied to interpret these responses.

First and perhaps most important, one should look at the overall pattern of responses by stage. Did the respondent Q-sort the items? That is, did he or she tend to mark all the items for certain stages high and for other stages low? The distribution of items for the first individual in Figure 5.16 suggests that the individual did in fact read the items carefully; the response pattern is quite consistent. The items for Stages 0, 1, and 2 generally are marked low, and the raw score values for items on Stages 4 and 5 are all high. This pattern suggests that the individual did differentiate the responses, and one can infer that the individual paid attention to the measure in responding.

If stage scores and profiles look irregular, it is frequently possible to locate one or two items that were marked extremely differently from the general response pattern. By studying those unusual items, the interpreter often can understand what the respondent was thinking—that is, what his or her predominant concerns were.

As illustrated in the second set of data in Figure 5.16, some individuals do not consistently sort the items. This failure to sort the items suggests a lack of differentiation according to the Stages of Concern. Perhaps the respondent cannot differentiate among concerns because of general confusion about what the innovation is; or maybe the innovation is so far removed from the respondent's life that it has little meaning. When asked why she responded the way she did, the second individual displayed in Figure 5.16 reported that she had filled out the measure at the end of a 4-day mountain retreat, did not know much about the innovation at that time, and was unable to sort out and make sense of the questionnaire.

For the third individual in Figure 5.16, there is neither a clear-cut profile nor a clear Q-sort. In this case, however, all the individual item responses are scored extremely high. This extreme response tendency suggests the lack of either ability or willingness to differentiate among the sources of concerns about the innovation. It also suggests that the person might be extremely anxious with regard to the innovation. The consistent "0" responses to all Stage 0 items indicates that

Figure 5.16. Display of Individual SoCQ Item Responses

Good Q-Sort:							
Raw Scores for Example 1							
	0	0	1	6	7	6	1
	0	0	6	1	7	7	5
	0	0	0	6	7	5	1
	0	5	0	1	6	7	5
	0	0	1	0	5	6	6
Totals	0	5	8	14	32	31	18
Percentiles	0	27	35	52	86	91	57
No Clear Q-Sort:							
Raw Scores for Example 2							
	0	4	1	4	3	0	0
	1	1	3	3	4	1	1
	0	1	3	3	4	0	1
	0	3	0	2	3	3	3
	3	3	3	1	1	1	1
Totals	4	12	10	13	15	5	6
Percentiles	7	48	41	47	16	5	11
Extreme Response Tendency:							
Raw Scores for Example 3							
	0	0	6	6	7	6	7
	0	7	7	7	6	6	6
	0	7	7	0	7	5	5
	0	7	7	7	7	7	7
	0	7	7	7	7	7	7
Totals	0	28	34	27	34	31	33
Percentiles	0	95	97	94	92	91	99

this person did read each item and is concerned about the innovation.

Comparing Stages of Concern Data With Demographic and Other Data

The demographic page attached to the SoC Questionnaire can provide data such as age, gender, years of teaching experience, and cycles of experience with the innovation. All of the demographic information can be contrasted with the SoC Questionnaire data. Cross-tabulations and correlations of high Stages of Concern scores with demographic data can lead to improved explanations and interpretations of concerns data.

It is interesting that there have been no outstanding relationships between standard demographic variables and Stages of Concern data. Rather, as our research unfolds, there is increasing support for the theory that interventions and conditions associated with the implementation effort are more critical variables than the user's age, sex, teaching experience, and so forth. As hypothesized in the Concerns-Based Adoption Model, the state of the user appears to be significantly more important than standard demographic variables in determining how the user will respond to an innovation.

Guidelines for Profile Interpretation of SoC Questionnaire Data

Although the following guidelines emphasize the interpretation of full SoC profiles based on percentile scores, they are also useful when interpretation is limited to highest and second highest stage scores. The guidelines are abstracts of statements discussed at length earlier in this section and are presented here in abbreviated form for ease of use. Basically, the guidelines are as follows:

- Always refer to the paragraph definitions for each SoC
- Establish a holistic perspective
- Look at high and low stage scores
- Look at individual item responses

Refer to the SoC Paragraph Definitions

The interpretation of all SoC data begins with referring back to the full definitions of each Stage of Concern (see Figure 2.1). With SoCQ profiles, the highest point will indicate most intense concern on that stage as defined in the corresponding SoC paragraph. Low scores indicate little or no concern as defined in the SoC paragraph.

Establish a Holistic Perspective

The goal in interpreting the Stages of Concern Questionnaire data is to develop an overall perspective and description of the relative intensity of the Stages of Concern about a particular innovation for the respondents. The interpreter should strive to develop a gestalt based on all the Stages of Concern scores. In developing an interpretation, the interpreter needs to explore alternative interpretations and check them against other parts of the SoCQ data. The focus for interpretation should be on what stages are high and low, and what the person seems to be indicating about his or her concerns. Developing this holistic description requires practice and thought. It cannot be done in a mechanical way.

Look at High and Low Stage Scores

Look at the relative high and low scores for the individual, rather than how high or low the individual's scores are in relation to data from some other use of the SoC Questionnaire. Figure 5.17 shows tips for interpreting certain stage scores and combinations of scores.

Figure 5.17. Interpreting High and Low Scores for Stages of Concern

Stage 0: High and Low Scores	
High Stage 0	Indicates a person who is not concerned about the innovation
Low Stage 0–High Other Stages	Suggests intense involvement with the innovation
Low Stages 0–3	Indicates an experienced user who is still actively concerned about the innovation
Caution: If the Stage 0 percentile is particularly high relative to the other scores, the other stage scores may have little significance.	
Stages 1 and 2: High and Low Scores	
High Stage 1	Indicates a person who wants more information about the innovation
Low Stage 1	Indicates respondents who feel they already know enough about the innovation
High Stage 2	Suggests that respondents have intense personal concerns about the innovation and its consequences for them. Although these concerns reflect uneasiness regarding the innovation, they do not necessarily indicate resistance
Low Stage 2	Indicates that the person feels no personal threat in relation to the innovation
High Stage 1–Low Stage 2	Suggests that the person needs more information about the innovation. These respondents generally are open to and interested in the innovation
Low Stage 1–High Stage 2	Indicates a person who has self concerns. These individuals may be more negative toward an innovation and generally are not open to information about it
Note: Stage 1 and Stage 2 scores usually are similar. If they are not, check them closely.	
Stages 3 and 4: High and Low Scores	
High Stage 3	Indicates concerns about logistics, time, and management
Low Stage 3	Suggests that the person has minimal to no concerns about managing use of the innovation
High Stage 4	Indicates concerns about the consequences of use of the innovation for students
Low Stage 4	Suggests that the person has minimal concerns about the effects of the innovation on students

Figure 5.17. *continued*

Stage 5: High Scores	
A high 5 score is complex.	
High Stage 5	Suggests concerns about working with others in relation to use of the innovation. A person scoring high on Stage 5 and low on all other stages is likely to be an administrator, coordinator, or team leader. Coordinating others is the priority
High Stage 5 With Some Combination of Stages 3, 4, and 6 Also High	Suggests concerns about a collaborative effort in relation to the other stages with high scores
High Stage 5–High Stage 1	Suggests a desire to learn from what others know and are doing, rather than a concern for leading the collaboration
Stage 6: High Scores	
High Stage 6–Low Stage 1	Indicates a person who is not interested in learning more about the innovation. The person is likely to feel that he or she already knows all about the innovation and has plenty of ideas for improving the situation
High Stage 6–High Stage 3–Low Stages 0–2	Indicates a person who has become frustrated with not having Management concerns resolved and has developed strongly held ideas about how the situation should be changed. The high Stage 6 score indicates that the person has ideas about how to change the innovation or situation from his or her point of view
Stage 6 Tailing-Up for Nonusers	Suggests the person has strong ideas about how to do things differently. These ideas may be positive, but are more likely to be negative toward the innovation

Look at Individual Item Responses

Look at the individual item raw score distributions. Check for patterns, trends, and irregularities. Watch the flow of item scores from left to right. Do they increase or decrease by stages? Remember these key ideas:

- If the raw scores indicate that the respondent Q-sorted the items according to stages, more credence can be given to the profile.
- The absence of sorting suggests general confusion about the innovation or lack of a clear focus. Perhaps the respondent did not read the items closely.
- Nonusers do not always peak clearly on one or two stages. If the items for Stages 0, I, and 2 are relatively high and Q-sorted, however, then the respondent is likely to be a nonuser.
- If there are no clear peak stages, then the person has either multiple Stages of Concern or no clearly focused concerns.

Chapter Six
Limitations and Restrictions

The Stages of Concern Questionnaire (SoCQ) is a tool that produces reliable and valid results when properly used. Users should keep in mind the following important considerations, because failing to do so could compromise the results:

Use the tool to diagnose, not to screen or judge.

The SoCQ is intended to be used strictly for diagnostic purposes for personnel involved in the adoption of a process or product innovation. It should not be used to screen or evaluate people or concerns. Concerns are neither good nor bad, and it is inappropriate to analyze them in those terms. Knowing that one individual has high Stage 3 concerns and another has high Stage 4 concerns does not mean that one of them is somehow better than the other. It means only that, in relation to the innovation in question, the two people require different kinds of assistance.

Personality assessment cannot be accomplished with the SoC, and no attempt should be made to do so. The instrument measures the concerns of individuals about specific innovations. Concerns are natural, healthy phenomena that should not be equated with personality characteristics.

Do not modify the statements on the questionnaire.

It might be tempting to modify some of the questionnaire items to better address a particular situation or need. Do not succumb to this temptation. Even the slightest modification of the SoCQ could result in invalidation of the scoring and norms and lead ultimately to misinterpretation of the results. The standardization sample for the SoCQ consisted of adults serving as teachers or administrators in educational institutions, grades kindergarten through higher education. In other settings or with other occupational groups, use the tool with caution.

An example of this need for caution is a study by Schaafsma and Athanasou (1994). The authors adapted the questionnaire for use with telephone linesmen and middle managers in Australia who were implementing a new service policy and a change in the role of the frontline manager. They extensively modified virtually every item on the survey to remove "jargon" and to reflect the fact that the individuals in this sample perceived that all changes were imposed from the top down. The role of individuals was to implement changes efficiently; teamwork and solidarity were valued highly. Thus, the "I" at the beginning of each item was changed to "We." In addition, several of the Stages of Concern were relabeled. For example, *Consequence* became *Impact on Clients*, *Collaboration* became *Impact on Colleagues*, and *Renewal* became *Impact on Organisational Goals*.

The authors of the study concluded that although the "results were considered to be broadly consistent with a developmental and stage model of concerns . . . the seven stages had low to moderate internal consistency reliability." They attributed this to the "small number of items per scale." Considering the extensive modification of

items and stages, the small sample size (n = 244), and the respondents' apparently uniform experience with the innovation, however, it is not surprising that reliability was low. One needs to have a variation in responses on a scale to find consistency among items on that scale. Thus, the authors based an extensive critique of the entire concerns theory on a highly modified SoCQ and a limited sample with little variation in respondents' experience.

Confirm the interpretation of the data with the respondents.
A sound interpretation begins with conscientious responses to the questionnaire, followed by careful development of hypotheses from the data. As noted earlier, interpretations should indeed be treated as hypotheses and confirmed with the respondents.

Expect feedback.
The SoCQ is known to work with everyone from nonusers of an innovation to highly experienced "old hands." Depending on their frame of reference, individuals often will identify specific SoCQ items they do not feel are appropriate for them, or they will point out that the innovation really is not new for them. Gratefully accept their comments; it has been our experience that their responses still will be appropriate and reflect their concerns.

Base any empirical critique of the Stages of Concern on adequate samples and appropriate research methodology.
A factor-analytic approach requires a large stratified sample of both users and nonusers. For example, a sample of first-time users of an innovation probably will not include individuals who have intense later-stage concerns. Thus, do not administer the SoCQ to a small sample of innovation users and then perform a factor analysis on the data. The results most assuredly will be factors that load the items heavily on one or two of the present Stages of Concern and do not distinguish the other stages.

Also, we expect that some adventurous souls will take it upon themselves to devise a "better" scoring system for the SoCQ. We welcome improvements. Be mindful, however, about what the tool was developed to do. If a tool is needed for some other purpose, then make the effort to develop a new tool expressly for that purpose.

With consideration of these limitations and restrictions, the Stages of Concern Questionnaire should provide valuable data to those interested in researching and facilitating change.

Chapter Seven
The Stages of Concern in Action: A Brief Review of the Research

Early research on the Stages of Concern (SoC) concept by members of the CBAM team includes investigations of the affective and behavioral change in individuals involved in implementation (George & Rutherford, 1978), facilitating institutional change using the individual as the frame of reference (Hall, 1978), and longitudinal studies of the application of the SoC in school settings (Hall, Hord, & Griffin, 1980; Loucks & Melle, 1980; Rutherford & Loucks, 1979; see also Hall & Hord, 1987, 2006). All these studies present evidence of the reliability of the Stages of Concern in describing and predicting teacher progress in response to a change effort and serve as the basis for wider application of the concerns theory to research and support for implementation and change efforts.

Conducting a literature search for current applications of the Stages of Concern is complicated. First, discussion of the SoC is often combined with discussion of Levels of Use or Innovation Configurations, the other diagnostic elements of the Concerns-Based Adoption Model. Second, people use the SoC in different ways for different purposes. Some adaptations of the SoC Questionnaire (SoCQ) compromise the reliability and intent of the original tool.

In selecting studies as examples of SoC use, we used a number of specific criteria. To be included here, a study must (a) include a large enough sample to be meaningful in terms of SoC data and its application; (b) reflect common use among researchers and practitioners; and (c) include examples that illustrate appropriate use of the Stages of Concern. We did not include dissertations in this review, instead admitting only peer-reviewed research and publications. CBAM tools are widely used in dissertation research, and such research frequently provides good examples of use despite their exclusion here.

The literature selected for this synthesis based on those factors certainly does not include all the possible references. We focused on studies and reports published between 1995 and 2005, although we have also included some earlier work when it is relevant. Using studies from the last 10 years, with particular emphasis on the last 5, provides evidence of the continued viability of SoC use, especially in research settings. Given the developmental nature of Stages of Concern theory, use of SoC allows researchers and professional developers to chart the developmental growth and related outcomes of participants over time. It is not an indicator of an end result, except as it reflects development related to a particular innovation. However, concerns theory supports the idea that later stage concerns relate to greater outcomes.

The references discussed here reflect use of the Stages of Concern in two ways:

- as a tool to help researchers evaluate and understand a change process and support the implementation process

- as a means to develop, focus, and support professional development

Included within these categories are examples of Stages of Concern used as a tool for reflection and examples that test the reliability of the SoCQ instrument by researchers other than the Concerns-Based Adoption Model developers.

It is important to note that SoC use is broader than use of the SoCQ. Concerns use by researchers and practitioners can include either analysis of open-ended statements or the use of the concerns framework itself as an analysis tool in interviews. The SoCQ, however, is the most common approach to data collection in research and implementation settings. In the course of research on implementation and CBAM tools, CBAM developers found that the concerns of facilitators differed slightly in orientation from the concerns of users. As a result, a second concerns questionnaire, the Change Facilitator Stages of Concern Questionnaire (CFSoCQ), was developed to reflect more specifically the concerns of those facilitating change (Hall et al., 1991).

Examples of Stages of Concern to Help Researchers Evaluate, Understand, and Support Implementation of a Change Process

Stages of Concern theory and method have been of particular interest to researchers studying technology integration in schools. For example, Yuliang and Huang (2005) used the Stages of Concern Questionnaire to examine the pattern of concerns of 86 inservice teachers in the Midwest about the issue of technology integration. The study found that teachers' concerns grouped in the three subcategories suggested by Hall, George, and Rutherford (1979): inexperienced teachers had Personal or Informational concerns, experienced teachers had Consequence concerns relating to consequences for students, and renewing teachers had Collaboration or Refocusing concerns. The study also found that teachers' concerns overall were most intense in the early stages of Personal and Informational concerns, as well as with Refocusing concerns. (According to Yuliang and Huang, renewing teachers are those who understand the innovation but are adapting it or considering ways to change their use of it based on their experience of it in place—i.e., Refocusing concerns.) In addition, the study reported significant statistical differences in teachers' concerns within the three levels described by Hall, George, and Rutherford (1979) related to teachers' perception of their own use of technology integration.

The Preparing Tomorrow's Teachers to Use Technology Initiative from the U.S. Department of Education InTime Project (Integrating New Technologies Into the Methods of Education, Krueger, Boboc, Smaldino, Cornish, & Callahan, 2004) investigated the effectiveness of project-developed materials for university faculty and teacher candidates to use the application of technology in curriculum lessons. Their research was conducted with 35 faculty participants and more than 1,100 teacher candidates over a 3-year period. The methodology employed a diverse set of strategies, including surveys, interviews, WebCT forums, individual reports, review of plans, and case studies. SoCQ data were collected from participating faculty to show the movement of individual faculty toward integrating technology in their methods courses. The data showed two results: (a) faculty's increasing familiarity with the innovation and (b) enhanced comfort with the innovation overall. Graphed analysis of the SoCQ data also show increased

concern for collaboration in use of technology (faculty with students) and a general lessening of the intensity of concerns, which would indicate increasing comfort with use.

Rakes and Casey (2002) used teacher concerns as the basis of research of teacher use of instructional technology in their classrooms. The researchers looked at the concerns of 659 preK–12 teachers using technology in schools across the United States, with a minimum of two teachers in each state. Data were collected via online survey. Regardless of years of experience with teaching and number of years with computers in their classrooms (505 out of 659 had had a computer in their classroom for more than 3 years), respondents overall showed high Informational, Personal, and Collaboration concerns and low Consequence concerns. Rakes and Casey interpreted this to indicate that the teachers were still in the early stages of coming to understand the process of using technology as a teaching tool. The researchers see these results as evidence that the institutionalization of computers as an instructional tool has yet to occur and will not occur until teachers become more personally comfortable with it as a tool, regardless of administrative or social pressure. Stages of Concern has been used as a measure of accommodation to technology use, with similar findings (Casey & Rakes, 2002; Hope, 1997; Rakes & Casey, 2002).

In a comparative case study, Atkins and Vasu (2000) examined the concerns of 155 teachers in three schools about the use of technology in teaching and compared each teacher's responses to his or her school's level of technology integration. One goal of the study was to determine how to help schools provide support for teachers through technology staff development targeted to teacher level. Along with the SoCQ, the schools involved with the Atkins and Vasu study used a 46-item Teaching with Technology Instrument (TTI) that measured teachers' actual use and computer competency (Atkins, Frink, & Viersen, 1995). By tabulating a score from the TTI, training needs for teachers could be assessed with student-based outcomes in mind. The researchers found high correlation between the outcomes of the SoCQ and the TTI—that is, where there were high Personal and Informational concerns, the TTI scores were low, indicating less comfort with the use of technology.

Because one goal of the study was to test the instruments, the researchers selected schools based on differences in the amount of support available to teachers in working with technology. Of the three schools involved in the study, the third had the most technical and personnel support for the use of technology. Teacher concerns there peaked at Stage 3 (Management) and Stage 4 (Consequence). The other two schools did not have the same level of support, and their highest concerns were at the Personal and Informational stages, respectively. The findings of their study suggest that schools that have technology specialists and offer consistent training and support to teachers have a better chance of successful technology integration.

James and Lamb (2000) worked with GTECH, a project funded by GTE, to prepare school teams of science, mathematics, and technology teachers to use electronic technology and integration of content across curriculum areas. After collecting SoCQ data over a 2-year period to assess the progress of site-based teams, the researchers applied the findings to design more effective

staff-development activities. GTECH teachers reported that this strategy helped them work with students and that students expanded their knowledge and skills in problem solving, teamwork, technical expertise, and creativity.

Gershner and Snider (2001) used pretest and posttest electronic SoCQ data, along with the other CBAM tools, Levels of Use (LoU) and Innovation Configuration (IC) Maps, to examine the integration of technology into curriculum delivery in a Texas school district. The study included 49 middle school and high school teachers. The electronic use of the SoCQ worked well in the pretest at the beginning of school year but poorly in the posttest at the end of year, although some significant findings were still obtained. The researchers stated that they learned from their results to control the setting for electronic input in future work, but that the CBAM measures in combination were of great promise for the assessment of innovations and developing supports for reform (p. 298).

Hawkes, Cambre, and Lewis (1999) for NCREL (North Central Regional Educational Laboratory) used the SoCQ and observational visits to evaluate the Ohio SchoolNet Telecommunity program in the third year of its implementation. The study included 23 funded projects. In conjunction with use of the SoCQ, evaluation methods included visits, observations, interviews, focus groups, and document analysis. The researchers concluded that (a) all the projects appeared to be moving through similar stages of technology adoption; (b) the providers of content expertise were not sure how they could best participate with the school partners in working with technologies; (c) standardized test scores may not be good indicators of the learning being achieved through the telecommunity network; and (d) cost-effectiveness is an issue in providing support for use. Concerns data helped the researchers to both formulate their conclusions and provide suggestions as to how to support what they see as valuable ongoing use of telecommunity programs.

Technology use is only one area of research to apply Stages of Concern theory and data use. Dass (2001) examined teacher concerns associated with the classroom implementation of instructional innovations in Florida promoted by the Collier Chautauqua Program (CCP). The program was based on the Iowa Chautauqua model disseminated through the National Diffusion Network of the U.S. Department of Education. During the first year of implementation, Stages of Concern data were collected by means of qualitative methods, such as focus groups and reflective journals. Dass found that the concerns framework provided a way to assess teacher readiness to work with implementation and uncovered areas that served as barriers to readiness.

Hargreaves, Moyles, Merry, Paterson, Pell, and Esarte-Sarries (2002) in the United Kingdom used concerns data to assess the progress of 15 primary school teachers in interactive teaching, a characteristic of "successful teaching," according to the National Literacy Strategy (NLS). The concerns data were used along with videotapes of the teachers' performance and semistructured interviews with focus and comparison groups to examine progress over an 8-month period. The data revealed few differences between the two groups but showed that teachers did increase their levels of interactivity and questioning with students. Hargreaves et al.'s later study (2003) with a larger group of teachers had similar findings—some change in teacher efficacy, but only in certain areas. They suggested that greater clarification of the innovation and support for

use could broaden teachers' application of the teaching strategy. Their studies also imply that there may be subtle differences in the context of schools in England that might alter the progress of concerns, although they needed to check this with a larger sample, and that innovation developers might need to reevaluate what they are asking teachers to do, or to focus interventions and supports to facilitate teachers' ability to meet the goals of the program.

Christou, Eliophotou-Menon, and Philippou (2004) in Cyprus used the SoCQ to examine the concerns of 655 primary school teachers in 100 schools to assess the implementation of a mathematics curriculum. Concerns data revealed that teachers focused mainly on Management concerns. There were significant differences, however, in the concerns of teachers across years of teaching experience—greater teaching experience meant higher-stage concerns and more focus on outcomes—but not across years of implementation. In comparing groups, the researchers concluded that attending to teacher concerns was essential to successful implementation.

Van der Vegt and Vandenberghe (1992) and Van den Berg (1993) used concerns data to examine the response of schools in Belgium and the Netherlands to national programs to encourage and support a new primary school concept. The intent of their research was to evaluate progress and provide support for further implementation. These studies were conducted in Dutch, not in English, which supports translation of the concerns concept to other languages and cultures. In Australia, Marsh (1987) applied the Stages of Concern and the Levels of Use as pre- and post-instruments to assess the implementation of a new social studies curriculum. His results showed that teachers, over a 9-month period, maintained high Personal concerns, perhaps because of the lack of explicit teacher guidelines provided by education officials, a finding similar to that of the Dutch scholars. These international studies support the use of CBAM tools in settings outside an English-language environment, although they do not in themselves verify the application of SoC in every international setting or language. However, they indicate an international interest in and dissemination of CBAM concepts as one means to understand and evaluate a change process.

Examples of Stages of Concern Use as a Means to Develop, Focus, and Support Professional Development

Another major role for the Stages of Concern (SoC) and the Stages of Concern Questionnaire (SoCQ) is in supporting and planning for professional development. Dobbs (2004) used the SoCQ as the framework for the quantitative component of a quasi-experimental study of the importance of training for higher-education faculty in adapting to and implementing distance education courses in an interactive television environment. The researcher focused particularly on differences in concerns among 27 faculty members who were expected to begin delivering instruction via distance education (DE). The teachers were divided into three groups: those who had received (a) classroom training on DE, (b) classroom training and laboratory experiences in DE, or (c) no DE training. Group B had the most intense concerns at all stages, but particularly at the Management and Collaboration stages. The presence of higher stages indicated that those teachers were already working in some way with the distance education innovation. Dobbs concluded that the Stages of Concern data were valuable because they confirmed a strategy for professional development based on comparing the three groups.

Ward, West, and Isaak (2002) used the SoCQ instrument to analyze a mentoring program for 45 second-year mentors and 65 first-year protégés using the Internet for teaching and learning. The SoCQ was used both as a pre- and post-assessment of the participants' concerns, along with an open-ended concerns questionnaire at the end of the project. The unique nature of mentoring allowed each group to address relevant concerns as they were identified and move on to higher Stages of Concern. The concerns strategy had been selected as part of a training package, because it provided a way to approach the developmental needs of teachers when working with the use of new technology. Analysis of the data indicated clear development that was consistent with the Self–Task–Impact concerns model. As a result of the study, mentors and teachers were paired to provide the most effective method of mentoring for lower- and higher-stage concerns. Further, researchers saw that allowing teachers to understand their own concerns as part of a developmental sequence helped them be more patient with their progress.

Howland and Mayer (1999) describe two examples of the use of the SoCQ in developing support for technology use in schools. The authors discuss the SoCQ and other resources as a means of support for the staff facilitating the integration of technology in their curricula and as a way to help teachers view their progress in working with technology. They illustrate the use of the SoCQ online tool in two settings—one for preservice teacher education, another as part of an online curriculum resource in a small rural school district. The SoCQ tool was provided as an online resource through two different networked community resources for sharing stories and developing supports around technology use in educational environments.

Burns and Reid (1998) applied the Stages of Concern and other elements of the Concerns-Based Adoption Model to evaluating and guiding staff development within gifted education. They applied the SoCQ and concerns framework to developing procedures for focus groups and conferences with teachers, teams, and parents relating to the needs of gifted education.

Taking a more reflective approach to professional development, McFarland (1998) used a Stages of Concern activity to illustrate to new teachers that changes could be predicted, followed, and charted to assess professional growth. The researcher first asked teacher candidates to document concerns and examples from their student teaching practicum in a journal or learning log. Then she asked the students to reflect on which Stages of Concern represented them at given moments and to chart their growth during the semester through concerns-based examples. The author generalized the discussion to apply it to any change process.

In Canada, Bennett, Fullan, and Rolheiser (in press) report using SoC and other CBAM tools in 10 districts involved with systemic change efforts involving 775 schools across Canada and 1,058 schools in Australia. The focus of their research with these schools and school districts is on examining the impact of the implementation of best practice related to learning, curriculum, instruction, assessment, and systemic change on student learning, starting with teachers' concerns, understandings, and use. Each of the districts involved is working with different combinations of practices but supports them by assessing concerns and other data, as well as using those data to help teachers evolve with their practice (see, for example, Börner, York region District

School Board, Ontario, 2003). The Ontario Institute for Studies in Education at the University of Toronto (OISE/UT) has devoted an issue of its journal *Orbit* to the process and outcomes experienced by these districts, including the use of CBAM tools as part of the process (Bennett, Fullan, & Rolheiser, in press). The University of British Columbia has created a new master's program that integrates some of this research and its application in North Vancouver and has 30 teachers doing their master's research on aspects of this overall project (Barrie Bennett, personal communication, 2005).

Also in Canada, Anderson, Rolheiser, and Bennett (1995) examined teacher concerns in eight elementary school districts in Ontario to find ways to help teachers improve their use of cooperative learning approaches in their classrooms. They used the SoCQ and the open-ended concerns statements to assess the progress of 172 teachers. Data were collected from the teachers in the middle and at the end of the school year. That information was then used to create specific staff-development support strategies for school teams to work with teachers.

Stages of Concern data have also been used to diagnose needs and support implementation in systems other than preK–12 schools and school districts. Gwele (1997) conducted a 3-year longitudinal study monitoring the staff concerns during the implementation of a problem-based learning program in a nursing school. Similarly, Bresnitz, Ross, Hall, and Stiegelbaur (1997) used CBAM tools, including SoC, to assess the facilitation of faculty implementation of computer-based learning in medical education. Both studies support the application of concerns data to planning staff development and programs but comment on the complexity of the innovations and environments as negative factors to implementation and use.

Discussion and Summary

Stages of Concern have been used in many different contexts and for different reasons. As stated by Horsley and Loucks-Horsley (1998),

> One of the greatest strengths of the Concerns-Based Adoption Model is that it gives credence to, and supplies a precise language for, the feeling each of us has when we are expected to embark on yet another new program or practice. It's comforting to know that there are discernable patterns in the many different and powerful emotions we feel when adapting to new circumstances. It helps us make sense of this change process.

The studies described in this chapter have used concerns theory to measure or evaluate the progress of implementation, to understand individuals' responses in order to tailor professional development to support use and success with use, and even as a reflective tool to allow people in the midst of change to see their own process and growth.

Research on the concept itself also continues. Cheung, Hattie, and Ng (2001) did a comparative analysis of four alternative SoC models, including 1,622 teachers, to test the reliability and construct validity of the SoCQ when used with teachers. Their results called into question the first stage of the model, originally called Awareness Concerns, or Stage 0, as well as the difference between Stage 1 (Informational) and Stage 2 (Personal). They saw them as almost the same in their sample. As a result, they reframed the instrument to five stages rather than seven.

In subsequent work, Chueng and Yip (2004) replaced the first stage, "Indifference," with a new scale they labeled "Evaluation," for which new items were written. They found that scores on this scale correlated most highly with their final scale, "Refocusing." This is not surprising, considering the concepts and items on the scale, but does illustrate how researchers across the globe have struggled with the concept of "Unconcerned" or "Indifference" regarding an innovation.

Many of the studies described here, such as Hargreaves et al. in England (2002, 2003) and Howland and Mayer (1999), have examined the question of the "fit" of SoC to their context as part of their research plan or findings. Also, many of the studies have involved technology in one form or another. This may parallel the fact that technology use has increased over the past decade and now includes not only integration and use with curriculum, but also, in terms of various strategies and resources, involves teaching online or different types of technologies available for use for different purposes. Within this framework, not only is the technology itself an innovation, but use of the technology in a variety of contexts is an innovation. For teachers, faced with new materials, methods, and processes on a regular basis, the addition of technology may be a reward or a complication. Regardless, technology lends itself to use of the SoC or SoCQ, both online or through paper data collection, simply because of its continuing "newness." In many of the studies here, the SoCQ is only one method within a complex of other data sources aimed at understanding a research problem.

A number of themes cross the research presented here, whatever its intent. The first is that lower-stage concerns (Information, Personal) need to be supported and resolved before higher-stage concerns, or concerns related to student outcomes, emerge. Starting with van der Vegt and Vandenberghe (1992) in the Netherlands and their research on policy implementation, through Rakes and Casey's studies of the implementation of technology (2002), to Börner's (2003) results in Canada as part of a large-scale research and facilitation study of best practices and Yuliang and Huang's (2005) look at technology integration, supporting and attending to lower-stage concerns, or not, made a great difference to teacher use of the innovation.

A second theme is that of time and complexity. Many of these studies were conducted in the first year of implementation; some crossed two or three years. When the time frame for the research is shorter and the innovation easily understood, movement from lower to higher stages was seen especially if the innovation was clear and some support for learning the innovation was available. When the innovation was complex and involved a number of aspects related to user change (such as new teachers developing curriculum that includes technology integration—i.e., all new: teachers, curriculum, and technology), shorter studies and the difficulty of isolating variables related to the innovation itself and the user resulted in change that was difficult to measure in concerns terms alone. Studies such as James and Lamb's (2000) GTECH project, Hargreaves et al.'s (2002, 2003) look at interactive teaching in England, or Gwele's (1997) study of nursing staff all discuss the difficulty of charting change in complex environments. Many of them, such as Hargreaves et al., isolated factors to see differences. Studies such as Gwele (1997) and Bresnitz et al. (1997) found that the complexity of the innovation and the environment (both studies related to medical environments) made implementation more difficult regardless of concerns or attending to concerns.

Use of concerns data to support ongoing training is another theme. Hope (1997), Hawkes et al. (1999), Casey and Rakes (2002), Börner (2003), Dobbs (2004), and Bennett et al. (2006) all discuss the role of CBAM tools in framing training. Ward, West, and Isaak (2002) used concerns data to pair mentors and teachers; Christou et al. (2004) found that teachers' years of experience, not years with the innovation, made a difference to concerns development and that contributed to supports for innovation use.

A final theme is that of using the SoCQ in different contexts, such as online or in combination with different methods, comparing methods in some cases. Atkins and Vasu (2000) combined SoCQ use with other instruments to test the accuracy of their correlation—that is, whether both instruments give similar data or support each other. Still others looked at the context of use and its outcomes as part of their study, as in Gershner and Snider (2001) in their discussion of the timing of the posttest and the need to control the setting for electronic input. Similarly, Howland and Mayer (1999) tested an online SoCQ in two types of settings, making suggestions as to use of the instrument related to each, in some cases for research or self-study, in others to design training and chart progress related to curriculum use.

A final point concerns the difference between "pure" research and "action" research. A few of these studies fall into the category of pure or experimental research. Most of them, however, were designed to understand or develop supports for an implementation process. In this sense, they were designed to contribute to action. The action might be to rethink the innovation, as in Hargreaves et al. (2002, 2003); to design training, as in Anderson et al. (1995), Casey and Rakes (2002), Dobbs (2004), and many others; or to better understand the process and where individuals are in the process of change (Christou et al., 2004; Dass, 2001; Hawkes et al., 1999; Rakes & Casey, 2002; Yuliang & Huang, 2005, among others). The concerns model was largely developed out of research to support action, or the effective implementation of change. It is not a surprise that taking action would be one major outcome of the use of concerns data.

The application of concerns theory presented here covers a range of innovations and settings, from technology use and technology integration, to teacher training, to cooperative learning, to medical education, to math and science curricula, to interactive teaching and literacy, to distance education, and involves different kinds of users, facilitators, and contexts. Most of these contexts are applied; a few are diagnostic and contribute to an ongoing discussion and deepening of concerns theory.

Although innovations and their contexts may change, an understanding of the affective and behavioral dimensions as they affect individuals within the process (i.e., the human dimension of change) is as important today as when the model was first developed in the late 1970s. Bennett, Fullan, and Rolheiser's (in press) presentation of extensive research using SoC and CBAM tools in Canada and Australia to support systemic change well illustrates Anderson's (1997) point that "a sound understanding of the affective and behavioral dimensions of change when teachers attempt to put new instructional methods and curriculum materials into practice remains as relevant today as it was 20 years ago, when CBAM theory was first being developed" (p. 332). These examples provide one snapshot of the continuing relevance of the SoCQ and concerns concept in understanding and supporting change.

Figure 7.1. Summary of Studies Described in Text

Year	Author	Sample	Type of Study	Purpose	Focus/ Innovation	Findings
1987	Marsh (Australia)	14 teachers at one elementary school	Pre-post use of SoCQ over 9–month period	Assess curriculum implemention of social studies program	Primary school innovation	High personal concerns over time period due to lack of explicit guidelines
1992	Van der Vegt & Vandenberghe (Belgium and Netherlands)	25 schools in Netherlands and 52 in Belgium	Longitudinal policy study of implementation	Evaluation, support for implementation	Primary school program	Interventions supporting implementation need to be integrated into ongoing school organizational processes, including addressing local concerns
1993	Van den Berg (Belgium and Netherlands)	Not described	Overview of research on national policy implementation	Evaluation, support for implementation	Support for national program	SoC valuable component of understanding change process
1995	Anderson, Rolheiser, & Bennett (Canada)	172 teachers in 8 school districts	Quantitative data collected at middle and end of year to assess progress and plan supports	Professional development	Design of support strategies for use of cooperative learning	Use of cooperative learning strategies improved when based on concerns data
1997	Bresnitz et al.	4 sites; 84 participants	SoCQ and LoU data in combination with interviews; 1 year	Assessment of implementation	Computer based learning in medical education	The complexity of the medical environment created difficulties for use
1997	Gwele	8 nursing staff	3-year longitudinal study; mixed methods	Assess implementation	Nursing Education – problem based learning	Monitoring of staff concerns provides support and planning but does not mediate the complexity of the environment or innovation
1997	Hope	16 teachers	Pre–post SoCQ plus multiple data sources	Assess implementation; professional development	Technology use	Describes the importance of training to supporting use

Year	Author	Sample	Type of Study	Purpose	Focus/ Innovation	Findings
1998	McFarland	25 student teachers	Qualitative, reflective journals over 1 year	Professional development	Student teachers	Use of concerns model to organize learning and approach to change
1998	Burns & Reid	Focus groups of teachers and parents	Qualitative and quantitative (SoCQ)	Evaluation and professional development	Gifted education	Concerns provides way to understand and support the different needs of individuals and focus training plans on needs
1999	Howland & Mayer	Two school settings	Test of online SoCQ in two application settings	Support for technology use	Network community for technology use	Describes two different applications of an online SoCQ and their effects; test of applications
1999	Hawkes, Cambre, & Lewis	23 projects in Ohio SchoolNet	Longitudinal, quantitative, and qualitative data	Evaluation of program	Telecommunity SchoolNet Program adoption	Programs moving through similar stages based on concerns data; concerns can help with support
2000	Atkins & Vasu	155 teachers	Comparative case study; correlates two instruments	Implementation support, professional development	Technology in teaching	Greater school-based support results in student-oriented concerns and outcomes
2000	James & Lamb	830 teachers and professors	Two-year study of concerns, needs, and test of supports	Program assessment and professional development	GTECH integrated math, science, and technology use	Although concerns lowered over 2 years, complexity of innovation meant difficulty with implementation
2001	Dass	24 teachers	Qualitative and quantitative methods	Professional development	Instructional innovations in science as part of Chautauqua Program Model	Concerns framework a way to assess teacher readiness and barriers to implementation

Figure 7.1. *continued*

Year	Author	Sample	Type of Study	Purpose	Focus/ Innovation	Findings
2001	Cheung, Hattie, & Ng	1,622 teachers	Comparative analysis of 4 alternative SoC models	Reliability and construct validity study	Test of empirical information about concerns construct in questionnaire	Reframes 7-stage SoCQ to 5-stage SoCQ; questions first stage in original model
2001	Gershner & Snider	49 teachers	Electronic use of SoCQ; pre–post test re technology use in classrooms	Test of electronic use of SocQ; program assessment	Curriculum integration of technology use	Need to control setting for electronic input but showed great promise for assessment strategy
2002	Casey & Rakes	659 teachers	Mixed methods including SoCQ	Assess effects of training on use; develop supports for training	Accommodation to technology	Addressing training, providing time and attention to teacher concerns, results in better use of the innovation and more focus on students
2002	Hargreaves et al. (England)	15 teachers	Comparative assessment of groups over 8- month period	Assess implementation	Interactive teaching in literacy	Data showed few differences between focus and comparison groups except in areas of interaction and questioning
2002	Rakes & Casey	659 teachers	Online survey of concerns	Assess implementation and degree of institutionalization	Use of instructional technology	Few users had the outcome-oriented concerns (Consequence) needed for institutionalization
2002	Ward, West, & Isaak	45 mentors and 65 protégés	Pre- and post-assessment	Assess program and developmental needs of teachers; support professional development	Mentoring for Internet use in teaching	Mentors and protégés paired based on concerns data; concerns allowed teachers to see own change process

Year	Author	Sample	Type of Study	Purpose	Focus/ Innovation	Findings
2003	Börner (Canada)	105 administrators and 389 teachers in one school district	Survey data based on concerns and CBAM tools	Evaluate the impact of using Instructional Intelligence approaches to teacher practice and student learning; understand how to support teachers in further implementation	Use of Instructional Intelligence curriculum strategies	Data indicate that supporting teachers in their understanding and use of instructional approaches has made a difference in quality of use and student learning
2003	Hargreaves et al. (England)	30 teachers	Focus and comparison groups over 8-month period; SocQ part of quantitative and qualitative assessment	Assess implementation and program outcomes	Interactive Teaching in Literacy	Some change in teacher efficacy but only in certain areas; few differences between groups
2004	Cheung & Yip	812 chemistry and biology teachers	Survey data based on CBAM tools	Determine reliability and validity of questionnaire; determine if teachers' Stages of Concern form developmental progression; determine if concerns related to school-based assessment are related to teachers' experiences with particular assessment program	Teacher Assessment Scheme (TAS)	Experience alone could not motivate teachers to think more about the impact of school-based assessment on student learning, their professional development in instructional assessment, and the possible refinements for their school-based assessment scheme; thus there is a need for professional development to arouse teacher Consequence and Refocusing concerns

Figure 7.1. *continued*

Year	Author	Sample	Type of Study	Purpose	Focus/ Innovation	Findings
2004	Christou et al. (Cyprus)	655 teachers in 100 elementary schools	Longitudinal study of concerns renew curriculum; comparison of four groups	Assess implementation	Math curriculum and textbook use	Most concerns at task stage; significant differences in concerns data based on years of teaching, not implementation
2004	Dobbs	27 faculty	Quasi-experimental study; classroom, lab, and control groups	Professional development	Implementing distance education strategies	Significant differences in concerns of classroom, lab, and control groups, signifying importance of training
2005	Yuliang & Huang	86 users	Longitudinal, 1 year	Assess implementation	Technology integration	Replicates earlier CBAM findings of user groups: 3 groups, self, consequence, and seeking new applications
2006	Bennett, Fullan, & Rolheiser, eds. (Canada)	1,700 schools in 8 districts in Canada and 2 in Australia	Describes multiple studies supporting systemic change and best practice using CBAM data supports and other methods	Support for implementation and systemic change; support focused on teacher concerns and use	Systemic change efforts in 1,700 schools	Focus on supporting teachers the main way to achieve student outcomes and clarify use related to integrated curriculum

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Appendix A

Stages of Concern Questionnaire

Name (optional): _____

The purpose of this questionnaire is to determine what people who are using or thinking about using various programs are concerned about at various times during the adoption process.

The items were developed from typical responses of school and college teachers who ranged from no knowledge at all about various programs to many years' experience using them. Therefore, **many of the items on this questionnaire may appear to be of little relevance or irrelevant to you at this time.** For the completely irrelevant items, please circle "0" on the scale. Other items will represent those concerns you do have, in varying degrees of intensity, and should be marked higher on the scale.

For example:

This statement is very true of me at this time.	0	1	2	3	4	5	6	(7)
This statement is somewhat true of me now.	0	1	2	3	(4)	5	6	7
This statement is not at all true of me at this time.	0	(1)	2	3	4	5	6	7
This statement seems irrelevant to me.	(0)	1	2	3	4	5	6	7

Please respond to the items in terms of **your present concerns,** or how you feel about your involvement with **this** innovation. We do not hold to any one definition of the innovation so please think of it in terms of your own perception of what it involves. Phrases such as "this approach" and "the new system" all refer to the same innovation. Remember to respond to each item in terms of your present concerns about your involvement or potential involvement with the innovation.

Thank you for taking time to complete this task.

0	1 2	3 4 5	6 7
Irrelevant	Not true of me now	Somewhat true of me now	Very true of me now

Circle One Number For Each Item

1. I am concerned about students' attitudes toward the innovation.	0 1 2 3 4 5 6 7
2. I now know of some other approaches that might work better.	0 1 2 3 4 5 6 7
3. I am more concerned about another innovation.	0 1 2 3 4 5 6 7
4. I am concerned about not having enough time to organize myself each day.	0 1 2 3 4 5 6 7
5. I would like to help other faculty in their use of the innovation.	0 1 2 3 4 5 6 7
6. I have a very limited knowledge of the innovation.	0 1 2 3 4 5 6 7
7. I would like to know the effect of reorganization on my professional status.	0 1 2 3 4 5 6 7
8. I am concerned about conflict between my interests and my responsibilities.	0 1 2 3 4 5 6 7
9. I am concerned about revising my use of the innovation.	0 1 2 3 4 5 6 7
10. I would like to develop working relationships with both our faculty and outside faculty using this innovation.	0 1 2 3 4 5 6 7
11. I am concerned about how the innovation affects students.	0 1 2 3 4 5 6 7
12. I am not concerned about the innovation at this time.	0 1 2 3 4 5 6 7
13. I would like to know who will make the decisions in the new system.	0 1 2 3 4 5 6 7
14. I would like to discuss the possibility of using the innovation.	0 1 2 3 4 5 6 7
15. I would like to know what resources are available if we decide to adopt the innovation	0 1 2 3 4 5 6 7
16. I am concerned about my inability to manage all that the innovation requires.	0 1 2 3 4 5 6 7
17. I would like to know how my teaching or administration is supposed to change.	0 1 2 3 4 5 6 7
18. I would like to familiarize other departments or persons with the progress of this new approach.	0 1 2 3 4 5 6 7

0	1 2	3 4 5	6 7
Irrelevant	Not true of me now	Somewhat true of me now	Very true of me now

Circle One Number For Each Item

19. I am concerned about evaluating my impact on students.	0 1 2 3 4 5 6 7
20. I would like to revise the innovation's approach.	0 1 2 3 4 5 6 7
21. I am preoccupied with things other than the innovation.	0 1 2 3 4 5 6 7
22. I would like to modify our use of the innovation based on the experiences of our students.	0 1 2 3 4 5 6 7
23. I spend little time thinking about the innovation.	0 1 2 3 4 5 6 7
24. I would like to excite my students about their part in this approach.	0 1 2 3 4 5 6 7
25. I am concerned about time spent working with nonacademic problems related to the innovation.	0 1 2 3 4 5 6 7
26. I would like to know what the use of the innovation will require in the immediate future.	0 1 2 3 4 5 6 7
27. I would like to coordinate my efforts with others to maximize the innovation's effects.	0 1 2 3 4 5 6 7
28. I would like to have more information on time and energy commitments required by the innovation.	0 1 2 3 4 5 6 7
29. I would like to know what other faculty are doing in this area.	0 1 2 3 4 5 6 7
30. Currently, other priorities prevent me from focusing my attention on the innovation.	0 1 2 3 4 5 6 7
31. I would like to determine how to supplement, enhance, or replace the innovation.	0 1 2 3 4 5 6 7
32. I would like to use feedback from students to change the program.	0 1 2 3 4 5 6 7
33. I would like to know how my role will change when I am using the innovation.	0 1 2 3 4 5 6 7
34. Coordination of tasks and people is taking too much of my time.	0 1 2 3 4 5 6 7
35. I would like to know how the innovation is better than what we have now.	0 1 2 3 4 5 6 7

Please complete the following:

1. How long have you been involved with the innovation, not counting this year?
   Never ___ 1 year ___ 2 years ___ 3 years ___ 4 years ___ 5 or more ____

2. In your use of the innovation, do you consider yourself to be a:
   non-user ___ novice ___ intermediate ___ old hand ___ past user ____

3. Have you received formal training regarding the innovation (workshops, courses)?
   Yes ____ No ____

4. Are you currently in the first or second year of use of some major innovation or program other than this one?
   Yes ____ No ____

   If yes, please describe briefly:

   _____

   _____

   _____

Thank you for your help!

Appendix B

Stages of Concern Quick Scoring Device

The Quick Scoring Device can be used to hand score the Stages of Concern Questionnaire (SoCQ) responses and to plot an individual profile. It is especially useful when only a small number of questionnaires need to be processed or when computer processing is not available. By following the step-by-step instructions, the SoCQ responses are transferred to the device, entered into seven scales, and each scale is totaled. Then the seven raw scale score totals are translated into percentile scores and plotted on a grid to produce the individual's SoCQ profile.

Instructions

1. In the box labeled A, fill in the identifying information taken from the cover sheet of the SoCQ.
2. In the table labeled B on the Scoring Device, transcribe each of the 35 SoCQ circled responses from the questionnaire (raw data). Note that the numbered blanks are not in consecutive order.
3. Row C contains the Raw Scale Score Total for each stage (0–6). Take each of the seven columns (0–6) in Table B, add the numbers within each column, and enter the sum of each column (0–6) in the appropriate blank in Row C. Each of these seven Raw Scale Score totals is a number between 0 and 35.
4. Table D contains the percentile scores for each Stage of Concern. For example, find the Raw Scale Score Total for Stage 0 from Row C ("12" from the example) in the left-hand column in Table D, then look in the Stage 0 column to the right in Table D and circle that percentile rank ("69" in the example). Take the raw score for Stage 1 ("31" in the example) to Table D and locate that numeral in the left hand Raw Score Total column. Move across in the percentile table to the Stage 1 column and circle the percentile value ("98" in the example). Do the same for Stages 2 through 6.
5. Transcribe the circled percentile scores for each stage (0-6) from Table D to Box E. Box E now contains seven numbers between 0 and 99.
6. Box F contains the SoCQ grid. From Box E, take the percentile score for Stage 0 ("69" in the example) and mark that point with a dot on the Stage 0 vertical line of the SoCQ grid. Do the same for Stages 1–6. Connect the points to form the SoCQ profile.

You can now check your own scoring by using the blank profile sheet (see Appendix C). You will want to make copies of the blank scoring device before writing on it. Reproduce the data in the example by recording the original data from the completed SoCQ.

Stages of Concern Quick Scoring Device

A

Date: _____

Site: _____ SS#: _____

Innovation: _____

B

Stage	0	1	2	3	4	5	6
	3 ___	6 ___	7 ___	4 ___	1 ___	5 ___	2 ___
	12 ___	14 ___	13 ___	8 ___	11 ___	10 ___	9 ___
	21 ___	15 ___	17 ___	16 ___	19 ___	18 ___	20 ___
	23 ___	26 ___	28 ___	25 ___	24 ___	27 ___	22 ___
	30 ___	35 ___	33 ___	34 ___	32 ___	29 ___	31 ___

C Raw Score Totals ___ ___ ___ ___ ___ ___ ___

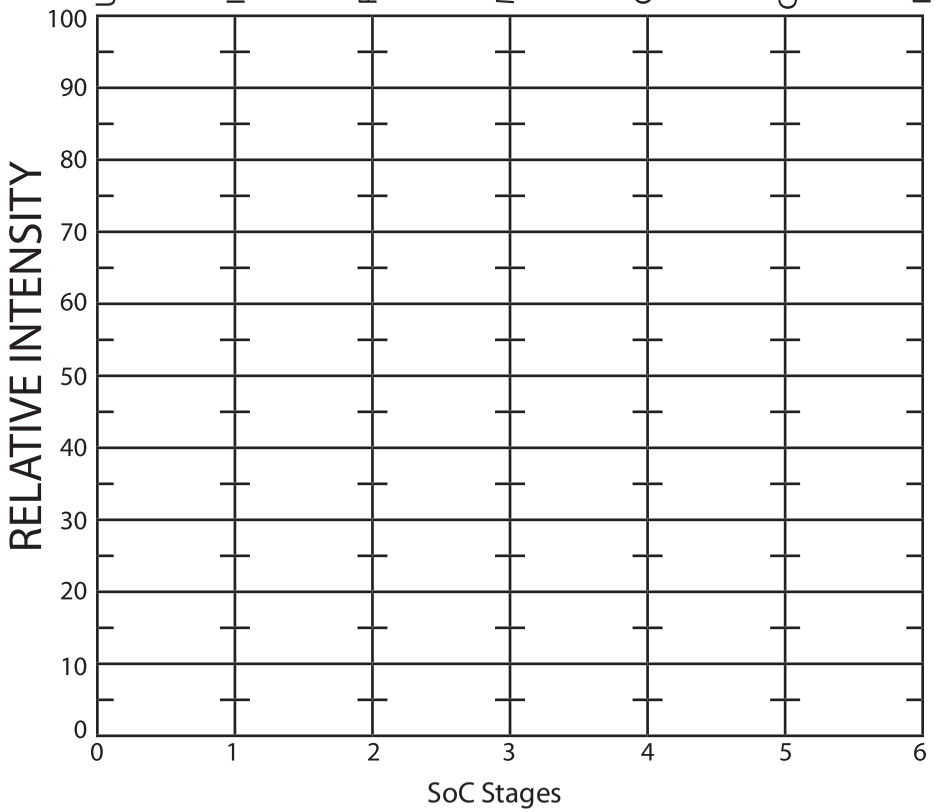
E Percentile Scores ___ ___ ___ ___ ___ ___ ___

D

Five Item Raw Scale Score Total	Percentiles for:						
	Stage 0	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
0	0	5	5	2	1	1	1
1	1	12	12	5	1	2	2
2	2	16	14	7	1	3	3
3	4	19	17	9	2	3	5
4	7	23	21	11	2	4	6
5	14	27	25	15	3	5	9
6	22	30	28	18	3	7	11
7	31	34	31	23	4	9	14
8	40	37	35	27	5	10	17
9	48	40	39	30	5	12	20
10	55	43	41	34	7	14	22
11	61	45	45	39	8	16	26
12	69	48	48	43	9	19	30
13	75	51	52	47	11	22	34
14	81	54	55	52	13	25	38
15	87	57	57	56	16	28	42
16	91	60	59	60	19	31	47
17	94	63	63	65	21	36	52
18	96	66	67	69	24	40	57
19	97	69	70	73	27	44	60
20	98	72	72	77	30	48	65
21	99	75	76	80	33	52	69
22	99	80	78	83	38	55	73
23	99	84	80	85	43	59	77
24	99	88	83	88	48	64	81
25	99	90	85	90	54	68	84
26	99	91	87	92	59	72	87
27	99	93	89	94	63	76	90
28	99	95	91	95	66	80	92
29	99	96	92	97	71	84	94
30	99	97	94	97	76	88	96
31	99	98	95	98	82	91	97
32	99	99	96	98	86	93	98
33	99	99	96	99	90	95	99
34	99	99	97	99	92	97	99
35	99	99	99	99	96	98	99

Concerns Based Systems International

F



Stages of Concern Quick Scoring Device

A

Date: May 6, 2006

Site: 25 SS#: 6102

Innovation: Unified Math

B

Stage	0	1	2	3	4	5	6
	3 1	6 6	7 5	4 ___	1 ___	5 ___	2 ___
	12 1	14 7	13 1	8 ___	11 ___	10 ___	9 ___
	21 2	15 6	17 4	16 ___	19 ___	18 ___	20 ___
	23 4	26 6	28 5	25 ___	24 ___	27 ___	22 ___
	30 4	35 6	33 2	34 ___	32 ___	29 ___	31 ___

C Raw Score Totals: 12 | 31 | 17 | ___ | ___ | ___ | ___

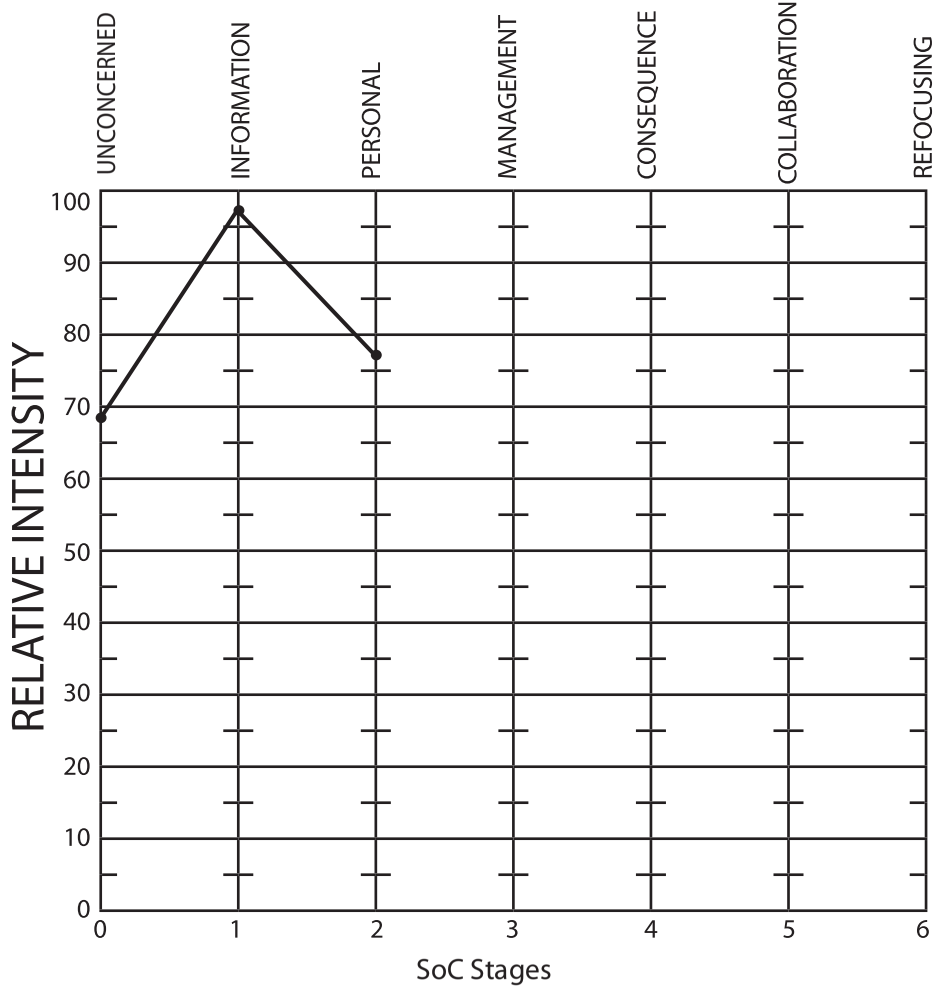
E Percentile Scores: 69 | 98 | 63 | ___ | ___ | ___ | ___

D

Five Item Raw Scale Score Total	Percentiles for:						
	Stage 0	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
0	0	5	5	2	1	1	1
1	1	12	12	5	1	2	2
2	2	16	14	7	1	3	3
3	4	19	17	9	2	3	5
4	7	23	21	11	2	4	6
5	14	27	25	15	3	5	9
6	22	30	28	18	3	7	11
7	31	34	31	23	4	9	14
8	40	37	35	27	5	10	17
9	48	40	39	30	5	12	20
10	55	43	41	34	7	14	22
11	61	45	45	39	8	16	26
12	(69)	48	48	43	9	19	30
13	75	51	52	47	11	22	34
14	81	54	55	52	13	25	38
15	87	57	57	56	16	28	42
16	91	60	59	60	19	31	47
17	94	63	(63)	65	21	36	52
18	96	66	67	69	24	40	57
19	97	69	70	73	27	44	60
20	98	72	72	77	30	48	65
21	99	75	76	80	33	52	69
22	99	80	78	83	38	55	73
23	99	84	80	85	43	59	77
24	99	88	83	88	48	64	81
25	99	90	85	90	54	68	84
26	99	91	87	92	59	72	87
27	99	93	89	94	63	76	90
28	99	95	91	95	66	80	92
29	99	96	92	97	71	84	94
30	99	97	94	97	76	88	96
31	99	(98)	95	98	82	91	97
32	99	99	96	98	86	93	98
33	99	99	96	99	90	95	99
34	99	99	97	99	92	97	99
35	99	99	99	99	96	98	99

Concerns Based Systems International

F

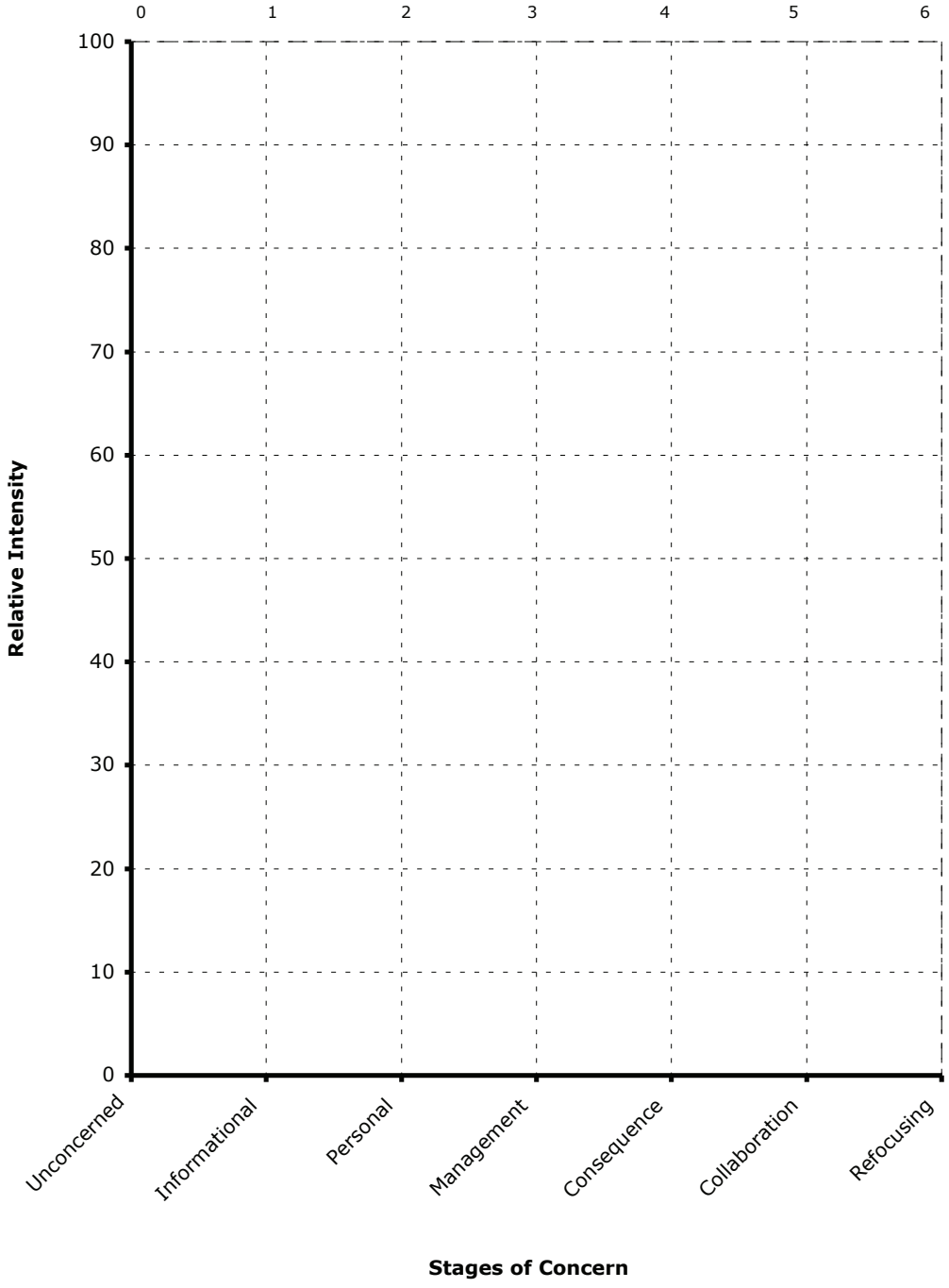


Appendix C

Stages of Concern Profile

Date: _____ **Site:** _____

Id: _____ **Innovation:**_____



Concerns-Based Adoption Model Resources and Professional Development

http://www.sedl.org/cbam/

This publication is one in a series of three technical manuals about the Concerns-Based Adoption Model (CBAM).

Evaluators, researchers, and change leaders may take advantage of both our publications and professional development to learn to apply the model appropriately in facilitating and measuring change.

CBAM Professional Development

CBAM training and professional development sessions will enrich your reading and learning experiences. SEDL's CBAM professional development sessions deepen participants' understanding of the model so they may apply the three dimensions of CBAM in their own schools and districts to facilitate and measure change. For administrators and educators who are acting as change leaders, SEDL also offers CBAM training-of-trainer sessions. Sessions are offered at SEDL's headquarters in Austin or you may arrange for professional development sessions onsite. The authors of this manual also welcome inquiries and offer professional development, separate from that offered by SEDL.

Additional Reading About the Concerns-Based Adoption Model

The SEDL publications department offers numerous resources related to the CBAM. Some of these have been published by other organizations but are distributed by SEDL. For more information on these publications, visit our online catalog at www.sedl.org/pubs/.

GEORGE, A. A., HALL, G. E., & STIEGELBAUER, S. M. (2006)

Measuring Implementation in Schools: The Stages of Concern Questionnaire

Austin, TX: SEDL

This publication explains the development of the Stages of Concern (SoC) dimension and how to measure the stages. It also discusses recent studies related to the SoC and includes a CD with tools for scoring the SoC Questionnaire.

HALL, G. E., DIRKSEN, D. J., & GEORGE, A. A. (2006)

Measuring Implementation in Schools: Levels of Use

Austin, TX: SEDL

This updated manual for the Levels of Use (LoU) describes the development of the LoU concept, which allows evaluators, researchers, and change facilitators to determine the extent of use of an innovation. The manual includes a pullout chart for identifying the Levels of Use.

HALL, G. E., & HORD, S. M. (2011)

Implementing Change: Patterns, Principles, and Potholes, 4th Edition

Boston: Allyn & Bacon

Implementing Change focuses on how the Concerns-Based Adoption Model gives school leaders a perspective for understanding, evaluating, and facilitating the change process. This second edition also describes three other change approaches: Diffusion, Systems, and Organizational Development. Also, a chapter is devoted to the development of Professional Learning Communities.

HALL, G. E., NEWLOVE, B. W., GEORGE, A. A., RUTHERFORD, W. L., & HORD, S.M. (1991)

Measuring Change Facilitator Stages of Concern: A Manual for Use of the CFSoC Questionnaire

Greeley, CO: Center for Research on Teaching and Learning.

Those who facilitate the change process have concerns about their role that are similar in dynamics to the front-line teachers implementing change. *Measuring Change Facilitator Stages of Concern* provides a Stages of Concern Questionnaire designed especially for principals, staff developers, or teacher leaders who are serving as change facilitators, but the frame of reference is the role of change facilitation rather than "my" use of the innovation.

HORD, S. M., RUTHERFORD, W. L., HULING, L., & HALL, G. E. (2006)

Taking Charge of Change, Revised Edition

Austin, TX: SEDL

Taking Charge of Change was written for working administrators and change leaders. It is one of the most readable introductions to the Concerns-Based Adoption Model that has been published. The lucid description of the CBAM gives educators concepts, tools, and techniques they can use to facilitate school change and improvement programs.

HORD, S. M., STIEGELBAUER, S. M., HALL, G. E., & GEORGE, A. A. (2006)

Measuring Implementation in Schools: Innovation Configurations

Austin, TX: SEDL

This publication describes the development of the Innovation Configurations (IC) dimension and how to determine the different ways an innovation may be implemented. The manual includes detailed descriptions of how to construct Innovation Configurations Maps for a single innovation or multiple innovations and provides numerous examples of IC Maps.

KILLION, J., HORD, S. M., ROY, P., KENNEDY, J., & HIRSH, S. (2012)

Standards into Practice: School-Based Roles: Innovation Configuration Maps for Standards for Professional Learning

Oxford, OH: Learning Forward

Standards into Practice: School-Based Roles: Innovation Configuration Maps for Standards for Professional Learning provides clear pictures of Learning Forward's Standards for Professional

Learning in practice and guides educators in increasing the quality and results of professional learning. This book presents innovation configuration maps for teachers, coaches/teacher leaders, principals, and school leadership teams.

Supplemental CBAM Resource

A supplemental resource in video format is available on the SEDL website at www.sedl.org/cbam/videos/cgi? The video includes an overview of the CBAM constructs as they may be applied to assessment of implementation of standards-based reform and accountability initiatives. The video features interviews with Dr. Gene Hall, Dr. Shirley Hord, and Dr. Archie George, three of the original CBAM developers and principal authors of this revised series.

Stages of Concern Questionnaire Online

SEDL offers a fee-based online version of the Stages of Concern Questionnaire (SOCQ 075) that can be completed online by many participants in a short amount of time. See http://www.sedl.org/pubs/catalog/items/cbam21.html

With data visualization features, the product provides access for a "survey administrator" to the online questionnaire as well as to an administrative site where the administrator can:

- set up an SoCQ cohort with a unique password and web site link which the administrator will send to survey participants to allow them to log on and complete the questionnaire online;
- customize the questionnaire with the name of the innovation being asked about;
- define subgroups for the SoCQ participants (if needed) to allow the questionnaire data to be graphed and examined for each individual, the entire cohort, or by a combination of one or more subgroups; and
- access the administrative area to view automatically generated graphs which represent the stages of concern for the participants being viewed. The data can be easily downloaded from the system in MS Excel format.

Contact Us

We invite you to share your comments and questions about the CBAM, purchase the CBAM resources and other school improvement products, or talk with a SEDL staff member to arrange CBAM professional development sessions.

Call us:	800-476-6861
Fax us:	512-476-2286 (Please send to the attention of the Publications Department)
Send an e-mail:	services@sedl.org

Authors' Biographies

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Archie George earned his PhD in measurement and evaluation from the University of Texas at Austin. During his 7 years at UT–Austin (1973–1980), he was a researcher at the Research and Development Center for Teacher Education. It was during this time that he and his colleagues developed and conducted the initial verification studies with the Concerns-Based Adoption Model (CBAM). He then moved to the University of Idaho as an analyst in the management information systems department. In 1989 he was promoted to assistant director, and in 1998 accepted the position of director of institutional research and assessment at the same university.

Throughout Dr. George's career, the primary focus of his collaborative research has been based in application of, consulting about, and evaluation of the change process from a concerns-based perspective.

Recent publications include the following:

Alquist, A., Hendrickson, M., Johnson, M., Thornton, E. A., Uchiyama, K., West, C. E., Hall, G. E., & George, A. A. (1999). Mapping the configuration of mathematics teaching. *Journal of Classroom Interaction, 34*(1), 18–26.

George, A. A., Hall, G. E., & Uchiyama, K. (2000). Extent of implementation of a standards-based approach to teaching mathematics and student outcomes. *Journal of Classroom Interaction, 35*(1), 8–25.

Hall, G. E., and George, A. A. (1999). The impact of principal change facilitator style on school and classroom culture. In H. J. Freiberg (Ed.), *School climate: Measuring, improving and sustaining healthy learning environments.* Philadelphia: Falmer Press.

GENE E. HALL, PhD

Gene Hall earned his MA and PhD degrees in science education from Syracuse University. For the first 18 years (1968–1986) of his academic career, he was a faculty member and researcher at the University of Texas at Austin in the national Research and Development Center for Teacher Education. During that time he and his colleagues developed and conducted the initial verification studies for the Concerns-Based Adoption Model (CBAM). He then moved to the University of Florida as a professor of educational leadership. In 1988 he accepted the position of dean of the College of Education at the University of Northern Colorado where he also served as a professor of educational leadership. In 1999, he became the dean of the College of Education at the University of Nevada, Las Vegas. Following his 5 years as dean, he again assumed a faculty position as a professor of educational leadership. Throughout Dr. Hall's career, the primary focus of his research has been based in application of, consulting about, and evaluation of change processes from a concerns-based perspective.

Dr. Hall also has had a parallel academic career regarding innovation in and national accreditation of teacher education.

Recent publications include the following:

Hall, G. E., & Hord, S. M. (2006). *Implementing change: Patterns, principles and potholes* (2nd ed.). Boston: Allyn and Bacon.

Hall, G. E., Gollnick, D., & Quinn, L. (in press). *The joy of teaching.* Boston: Allyn and Bacon.

Johnson, J., Musial, D., Hall, G. E., Gollnick, D., & Dupuis, V. (2005). *Introduction to the foundations of American education* (13th ed.). Boston: Allyn and Bacon.

SUZANNE M. STIEGELBAUER, PhD

Suzanne Stiegelbauer received her PhD in social anthropology with a dual focus on Native American arts and the social context of education from the University of Texas at Austin. She has an MA in visual arts and education from the University of Illinois, Champaign-Urbana. Dr. Stiegelbauer began her career as a high school visual arts teacher. As a graduate student, she had the opportunity to participate as a member of the research staff at the University of Texas's Research and Development Center in Teacher Education. As part of the Concerns-Based Adoption Model (CBAM) team, she worked on the development of the CBAM tools as well as on ongoing research on school change. Upon the completion of her PhD, Dr. Stiegelbauer took a position as a professor at the Ontario Institute for Studies in Education at the University of Toronto (OISE/UT), where she worked with Michael Fullan on the 1991 version of *The New Meaning of Educational Change*, as well as on other studies and publications related to school reform, teacher education, and the arts.

Currently Dr. Stiegelbauer is an associate professor of educational leadership and school improvement at Texas State University–San Marcos and arts toolkit coordinator for the National Partnership for Quality Afterschool Learning, located at SEDL in Austin, Texas. She continues to work with OISE/UT and Texas State University–San Marcos on research related to leadership, school change, and the arts.

Recent publications include the following:

Gordon, S., Stiegelbauer, S., & Diehl, J., (2005, Fall). Year one of school improvement: Examples from nine schools. *Educational Considerations.*

Stiegelbauer, S. (2004). When teachers and artists hold hands: Partnerships in education. In D. Booth and M. Hachiya. (Eds.), *The arts go to school.* Toronto: Pembroke Publishers.