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# Teachers' learning styles : their effect on teaching styles

Yamagishi, N. Rochelle

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**TEACHERS' LEARNING STYLES:  
THEIR EFFECT ON TEACHING STYLES**

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## **DEDICATION**

To my case study subjects, without whose willingness to share, this project would have been impossible.

To Lloyd, Kristin, Kyle and Karyn, my family who has patiently submitted to learning style analysis over the supper table, but especially to my husband who has given me a "room of my own" in which to carry out my Abstract Sequential endeavors.

To my project supervisor, Dr. Michael Pollard, who read through the many drafts, encouraged my efforts, guided my thinking, and dealt with the many technical details, with caring and equanimity.

I wish to also express my appreciation to Dr. Cathy Campbell, my second reader, who helped to put the "frosting on the cake."

"There are two sentences

inscribed upon the Delphic oracle...:

*'Know thyself' and 'Nothing to excess';*

*and upon these all other precepts depend."*

*[Plutarch: Consolation to Appollonius]*

(Evans, 1968, pp. 755-756)

## TABLE OF CONTENTS

	page
PREAMBLE.....	1
RATIONALE.....	3
LITERATURE REVIEW:	
Learning Style.....	6
Teaching Style .....	11
RESEARCH QUESTIONS.....	16
METHODOLOGY.....	17
PROCEDURE .....	18
ANALYSIS OF CASE STUDIES:	
Dominant Abstract Sequential.....	21
Self-Analysis	
Natural Style: Abstract Sequential.....	22
Flexed Style: Abstract Random.....	24
Adapted Style: Concrete Sequential.....	25
Coping Style: Concrete Random.....	27
Dominant Concrete Sequential.....	28
First Interview	
Natural Style: Concrete Sequential.....	29
Flexed Style: Abstract Random.....	34
Coping Style: Concrete Random.....	36
Resisting Style: Abstract Sequential.....	38
Second Interview.....	40

Dominant Abstract Random.....	43
<b>First Interview</b>	
Natural Style: Abstract Random.....	44
Flexed Style: Concrete Random.....	49
Adapted Style: Concrete Sequential.....	52
Resisting Style: Abstract Sequential....	53
Second Interview.....	55
 Dominant Concrete Random.....	 60
<b>First Interview</b>	
Natural Style: Concrete Random.....	61
Flexed Style: Abstract Random.....	64
Adapted Style: Concrete Sequential.....	65
Coping Style: Abstract Sequential.....	67
Second Interview.....	69
 DISCUSSION.....	 73
 CONCLUSION.....	 77
 REFERENCES.....	 80
 APPENDIX A:	
Butler's Questions.....	82
 APPENDIX B:	
Style Delineator (Matrix Forms).....	85
 APPENDIX C:	
Gregorc's "Style Characteristics".....	89
 APPENDIX D:	
Ethics Letter.....	107

Several years ago, while trying to reconcile our bank statement, my husband and I had a difference of opinion. He insisted that the solution was to be derived by his method, while I found that method confusing and insisted on using my method. As it turned out, we both arrived at the same answer, but by different routes. This was my first inkling that individuals might have different approaches to the same problem, each equally valid, but definitely different!

In the intervening years, I have noted time and again that people have different ways of looking at things--not only in problem-solving per se, but in approach to life. What has disturbed me about this rather simple fact, however, is the social effect. People who had black-and-white ways of viewing the world usually had no misgivings about announcing loudly and unequivocally that their way was not only the best way, but the only way that should be considered. I discovered that this type of approach played havoc with my self-esteem and with my relationships with those types of people. Rather than "considering the source," I blamed myself alternately for being wrong, stupid, incompetent, muddleheaded, oafish--whatever the occasion warranted! I have spent countless hours trying to analyze the motives and causes of both their behavior and mine.

Similarly, people who were unable to converse about "ideas," as opposed to "things" and "people" I deemed shallow and simple-minded and they were recipients of my scorn and disdain. Although I felt uneasy about having such negative attitudes, and did not consciously or openly deride them in order to make myself look better, I did not quite understand what would evoke such pretentious feelings on my part.

Again, it affected social relationships so that I would feel uncomfortable with certain people and consider it a waste of my time to have to spend it in their company.

In his book, *An Adult's Guide to Style* (1982), Gregorc includes full descriptions of the style characteristics of the four learning styles-- Abstract Random (AR), Abstract Sequential (AS), Concrete Random (CR), and Concrete Sequential (CS). Upon reading the description of the Abstract Sequential learning style, I experienced an, "Aha!" of the integrating, validating kind, that has led to an increase in my sense of self understanding and self-acceptance. Specifically, I found one of the "major intolerances" of AS individuals to be "ideas and claims which do not meet their rational tests of logic or approved tests of validity"--hence my discomfort as an "AS" with people who try to foist their ideas and opinions on me. Similarly, with one of the "observable traits" of the AS:

If they [AS individuals] think that you haven't had a bright idea in years or are not conversant in any of [their] areas of interest, [they] will never ask you for your opinion or view on anything. [They] may even dismiss you as an irrelevant being (pp 26-7)

--not that such behavior is therefore justifiable, but at least understandable, and thankfully I was not the only social misfit in the world!



### ***Rationale***

Since first hearing about Gregorc's Mediation Ability Theory in an Education class several months ago, the whole notion of learning styles has intrigued me. Upon further study, particularly of Kathleen Butler's excellent doctoral work, *Learning and Teaching Style: In Theory and Practice* (1984), which is an elaboration of Gregorc's theory, I have come to realize that a specific learning style might actually determine our world view--not only influencing how we learn and how we perceive the world, but also how we react to the environment and how persons in our environments relate to us--in essence, what I would call our "living style." I have become curious about how awareness of one's learning styles might affect self-esteem and thereby, our potential for self-actualization.

Butler (1984) writes at length about the effects of environment on individuals' levels of self-realization and self-actualization. She states that people, organizations, and situations can help or deter individuals from reaching their goals. Environments produce a "range of possibilities" including: allowing and encouraging us to be ourselves and develop additional style responses; guiding us in recognizing personal forces and uses of natural style; asking us to subordinate our dominant style for convenience; requiring us to submerge our dominant style and work consistently through a nondominant channel (p. 33).

Butler goes on to outline various responses we might make to these environmental demands, including: being ourselves and using our own styles; developing style "flex-ability"--the ability to know and retain our own style but at the same time to flex with ease to meet legitimate style demands; developing our own understanding of personal forces and style;

learning adaptation skills to permit us to work in nondominant channels at a satisfactory level within the environment; learning coping skills to help us survive in the environment; developing the ability to resist the environment overtly or covertly, through confrontation or by sabotage (p. 34).

My own experience in insight or enlightenment has led to a interest in other people's reactions to learning about their learning styles in this way. I recently had the opportunity to conduct a seminar for fellow students at the University of Lethbridge on my favorite topic--Gregorc's learning style theory. Not only did this provide me with the occasion to share my new experience, but I was also afforded the opportunity of leading the participants through the process of determining their learning styles and reading through the descriptions of their dominant learning styles. Although we did not have the time for all to read the full descriptions of their learning styles, the general consensus was that a surprising number of peculiarities were correctly described as part of people's personalities and there was a startling feeling of "rightness" to the descriptions.

Rather than being merely a "parlour game" type of activity, the way some people use astrology or palm-reading, I feel that the study of learning styles has validity in the field of Education. I believe that the awareness and study of learning style constitutes knowledge that will contribute to teachers' overall level of self-esteem and can transfer into their teaching because of increased self-confidence--a feeling of being "OK" (Harris, 1960). Since I believe that teachers as persons should be ever working toward self-actualization in both their personal and

professional lives, it is this area where I feel that the application of learning style theory can be of enormous benefit. To quote Butler (1984):

A psychological model of style is valuable as an individual and organizational tool, and serves several functions. As a vehicle for personal analysis, interpersonal understanding, and organizational change, it plays many and varied roles. (p. 35)

In *An Adult's Guide to Style* (1982), Gregorc recommends going beyond the awareness and consciousness raising stage which is often "a pleasurable experience," to the second stage of serious, in-depth personal application of mediation theory which is "much more subjective, personal, and difficult for many people" (p. 49). He includes in his book a complete section entitled, "Self-Study," which he states has the primary purpose of assessing:

"your 'SELF'...[which] will help you to realize and come to grips with how you, as a unique individual, interact with multiple realities. It also forces you to acknowledge your personal strengths and weaknesses by bringing them to light...When you begin to know yourself, development begins automatically. (p. 49)

As helpful as self-study might be, I feel that learning style theory is ultimately more valuable in promoting greater recognition and understanding of people's behavior. Application of learning style theory can be made in both educational and social settings, either in informal or formal situations. For example, in the informal setting of child-raising, parents' acceptance of a child's learning style that is different from another child's or their own would likely contribute in a positive way to the growth of self-esteem. In the more formal educational setting of schools, I can readily see that an appreciation for different learning styles in students might open teachers' eyes to the advisability of using

different teaching methods for different students. This approach would be in direct opposition to the "bandwagon" tactics that are so frequently seen in education. For example, while the use of manipulatives in teaching mathematics might be appealing for teachers and students of certain learning styles, others might learn and teach better using more traditional rote or conceptualization approaches which better match their learning style.

Regardless of how or when learning style theory is applied, a more far-reaching effect would be an appreciation of human individual differences. Ideally, this would lead to a greater flexibility toward, and acceptance of, other human differences that seem to stand in the way of harmony among the sexes, races, ethnic groups, religious sects, and political factions.

## ***Literature Review***

### ***Learning Style***

Although there are many other theories of learning style which have led to significant amounts of research (Dunn, 1979; Dunn & Griggs, 1988; Kolb, 1984; Witkin & Goodenough, 1981) the learning style theory which makes the most "sense" to me--perhaps because of my own learning style!

--is the work of Anthony F. Gregorc, who suggests the following phenomenological definition of learning style:

Learning style consists of distinctive behaviors which serve as indicators of how...person[s] learn from and adapt to [their] environment. It also gives clues as to how a person's mind operates (Gregorc, 1979, p. 234).

Gregorc (1979) describes his research as "phenomenological" in that it consists of the cataloging of overt behavior, analyzing the behavior to determine underlying causes, and drawing inferences regarding the nature of the learner. Gregorc also recognizes the dimensions of individual versus group activity (as well as the fact that any individual might prefer one or the other or function equally well in either situation), environmental factors, and the student's age and stage of physical and emotional development (Gregorc, 1979). However, he believes that stylistic characteristics are surface indicators of two deep levels of the human mind--"whole systems of thought, and peculiar qualities of the mind which an individual uses to establish links with reality" (Gregorc, 1984. p.51).

Gregorc's explanation for differences in style is both "nature/nurture in its roots"--with patterns of environmental adaptation available to us through our genetic coding systems, as well as through environmental and cultural expectations, while they are also properties of "the self, or soul, and...used for self-actualization purposes" (Gregorc, 1979, p. 234).

The work of Gregorc is elaborated by Kathleen Butler (1984, part I), who states that the term "learning style" is used by educators as a generic term for recognizing individual learning differences. Gregorc's Mediation Ability Theory provides an organized way to understand how the mind works, defining four types of mediation abilities: perception, ordering, processing, and relating. His research has identified two sets of dualities apparent in the initial phase of learning--the "information acquisition phase" (Gregorc & Ward, 1977)--perception and ordering.

A perceptual duality is found in the use of "abstract" and "concrete" reference points for thinking (Gregorc & Ward, 1977). The perception quality of "abstraction" allows each of us to experience the invisible and nonphysical world of emotion, feeling, spirituality, aesthetics, and intellect. Conversely, the perception quality of "concreteness" permits us to experience and understand the visible, physical world, as well as to express ourselves in physical media (Butler, 1984).

In addition, an ordering duality is identified in the form of "sequential" versus "random" preferences (Gregorc & Ward, 1977). The ordering quality of "sequencing" permits us to order the world in a linear, step-by-step, methodical, predetermined, organized fashion. On the other hand, the ordering quality of "randomness" allows us to operate in nonlinear, intermittent, flexible, split-second, changeable, ambiguous fashion (Butler, 1984).

Gregorc combined the two sets of mediation abilities-- abstract/concrete and sequential/random--to characterize four types of "transaction ability channels": Concrete Sequential, Abstract Sequential, Abstract Random, and Concrete Random, each of which has particular behaviour and characteristics. These have been measured on an instrument called, the Style Delineator (1982) and compared to an analysis of overt behavior (Gregorc, 1979).

In the Concrete Sequential style, the individual's approach to learning is orderly, organized, thorough and precise. The working style is direct, structured, predictable, and perfection-oriented. Preference is shown for the concrete, physically based, and the practical. The individual is task-oriented, industrious, factual, and exact. Other characteristics include steadfastness, reliability, and self-confidence.

The Abstract Sequential style is characterized by a rational, logical, theoretical, analytical approach. The person might be described as evaluative, intellectual, scholarly, and structured. Implicit in this style is argumentativeness and resistance to change.

Abstract Random learners are emotional, sensitive, and subjective in their approach to learning. They are also sociable, understanding, empathetic, imaginative, and colorful. Orientation is toward media, themes, and interpretations. Style includes flexibility and adaptability.

Individuals with Concrete Random style are inquisitive, curious, investigative, and intuitive. Other characteristics include a penchant for the daring, different, and unusual. They tend to be creative, divergent, original, inventive, and change-oriented. They like to be challenged, and readily engage in problem solving, experimenting, and independent learning.

Gregorc's initial proposition that "style is symptomatic of particular systems of thought and of peculiar qualities of the mind" (Gregorc, 1984, p. 51) emerged in 1970 when he was involved with colleagues in naturalistic studies of the learning of youth and adults both in and out of class. From various subsequent studies from 1974 to 1977, Gregorc and co-researchers arrived at the position that "style characteristics are related to systems of thought and the driving forces of the mind" (Gregorc, 1984, p. 53).

Butler (1984) points out, however, that Gregorc's learning style theory is concerned with the behaviors of individuals and the reasons for those behaviors. Each style suggests how and why persons who exemplify them behave in certain ways.

When we look only at behavior, some people can be quickly recognized as a "natural" CS, AS, AR, or CR style--they "fit" the pattern of that style.

If, however, we are required to relate to environments which do not cultivate, accept, refine, or permit use of natural style, it appears that we must develop nondominant channels. Butler (1984) states that there appear to be at least six ways by which we express style:

Natural style expresses the individual's driving forces through natural mind channels. Individuals use flexed style to express themselves through nondominant channels and in a style that others can understand ...One's style flex-abilities can appear to others to be natural because they are an integral part of one's own style repertoire, require little extra energy, and allow natural style to keep its legitimacy for the individual...Adapted style appears when ...individual[s]...[put aside driving] forces and [natural mind] channels to meet the needs or the demands of others. One's adaptive style does not appear to be natural. To use the adaptive style requires extra concentration and energy...Coping style occurs when...individual[s] must overlook [their] driving forces and natural mind channels in order to survive the process of meeting the needs and demands of others. Coping style never appears natural, and calls for maximum concentration and energy...Resistant style is employed when...the individual puts maximum energy and concentration into resisting the style demands and goals of others, but may or may not be able to recognize or realize his/her own...Masked style results when the [individual's] self-evaluation indicates she has lost her ability or is unable to see herself as she is in favor of pretending to be someone else. (pp. 23-6).



### *Teaching Style*

According to Butler (1984, part II), all teachers have a personal learning style which limits their vision of other possibilities in the classroom and their understanding of different types of students, and also restricts their choice and interpretation of teaching techniques. Furthermore, the concept of teaching style can help us to understand the person as a teacher acting as an "instrument of thought" who actually shapes the reality of the classroom.

Teaching style is defined as a collection of distinctive behaviors which place "mediation demands" upon the mind qualities of both the learner and the teacher (Butler, 1984). The four teaching styles outlined by Butler (1984, part II) correspond to the four learning styles--Concrete Sequential, Abstract Sequential, Abstract Random, and Concrete Random. The dominant styles of teachers can be identified by their attitudes and behaviors toward the learner, the curriculum, the classroom, and the educational process in general.

Gregorc (1979) talks of "alignment" being a process in which an attempt is made to adapt learning style and environmental demands, including teaching style. In an earlier work (Gregorc & Ward, 1977), he outlines the process which begins with the teacher observing the behavior of learners and attempting an empirical assessment of the learning preferences present in the classroom, using the description of "CS, CR, AS, and AR learners" providing guidelines. He then recommends that the assessments be discussed with students for verification and modification. This would be followed by the teacher's attempt to vary class presentation through including methods of instruction that meet the range of the learners' preferences.

This might be accomplished by offering alternatives for students to reach the same objective, or by providing students with assistance in developing their abilities to learn through a selected method.

Some "obstacles in diagnosis" of learning styles and cautions in the use of learning/teaching style alignment materials are suggested by Gregorc (1979, p. 235). Firstly, since instruments focus only on certain variables, educators should be wary of making prescriptions solely on the basis of instrument results. Also, due to the fact of the self-reporting nature of Gregorc's learning style instrument, we must be cautious of the reliability of assessment results. However, continued diagnosis should help us to understand more about the human mind and how people learn. I take this to mean that delineation of differences is important.

Gregorc also warns against "artificial adaptations" which may be reported as "preferred means of learning," since some students have used them for so long. The risk is that prescriptions might be made on those bases that do not encourage and draw upon natural abilities. Gregorc recommends that prescriptions must be "tentative, varied, monitored, and verified by conversations with the student" (Gregorc, 1979, p. 236).

The educator's attitude--either positive or negative--and toward the student or the process of assessment itself, can influence both instrument interpretation and resultant prescription. Teaching style places subjective demands upon the learner and alignment of any style is dependent upon the adaptive capacities and abilities of both the learner and teacher.

Hilgersom-Volk (1987) in a recent overview of theories and findings on learning styles notes that while teachers are becoming increasingly aware of different learning styles, they have generally rejected the

practical use of learning styles in the classroom. However, she cites various prominent researchers in the field of learning style whose investigations "overwhelmingly support [learning style] classroom application" (p. 4). She quotes Gregorc's strong statement regarding the application of learning style theory:

First, teachers must learn to honor their own individual learning styles. Second, teachers must attempt to facilitate the true ability of the learner. Not to do so has serious implications. 'To purposefully cause mental distress by presenting materials in ways that they (learners) cannot truly fashion and handle, is indeed a moral issue (p. 4).

Hilgersom-Volk (1987) refers to a local Oregon school authority who sees "several reasons" why learning style research is not utilized in regular classroom teaching. The suggestion is made that regular classroom teachers may view learning styles as a fad, a belief which prevents teachers from investing time, energy, and involvement. Others simply are not trained to effectively apply learning styles to their classrooms (p. 15). Another Oregon school teacher is described, who has for several years, successfully applied learning styles to this teaching. His experience indicates that learning styles are applicable to every student and every situation. He has witnessed teachers undergo incredible changes in teaching ability and grow more motivated and satisfied about their work following their adoption of learning style methods. (p. 16).

On the basis of finding that the majority of failing students are of random style and the majority of A's are received by sequential style students, he questions whether at-risk students have a predominant style that precludes learning in the way teachers standardly prescribe.

Hilgersom-Volk (1987) concludes that:

The current theory and practice of learning styles boldly respond to the call for educational reform...if we can make the paradigm shift that celebrates the diversity of our nation's youth, the effects will be profound. When learning styles become a pervasive force in America's classrooms, children...will learn to honor and accept their uniqueness and the differences among their peers (p. 21).

She goes on to make several recommendations including the gaining of administrative endorsement and support, coordinating preservice training for teachers, encouraging teachers to apply learning styles, involving students and parents in learning styles efforts, and continuing to develop a research base (pp. 21-23).

I feel that one of the important initial steps in carrying out these recommendations is to learn more about teachers' learning styles and teaching styles. Herbster, Abel, Hargrove and Weems (1987) have compared Gregorc's four learning styles with the four families of human orientation to learning identified by Bruce Joyce and Marsha Weil: the Information Processing Family (IP), the Personal Family (PF), the Social Family (SF), and the Behavioral Systems Family (BS). They found a significant positive relationship between Teaching Models and Learning Styles, supporting the assumption that learning styles and teaching models are related (p. 5).

Specific results of their study included the findings that the majority of both CS and AS teachers preferred IP as their model of teaching (defined as "a process of accessing, processing and organizing data in an effort to understand the environment" [p. 4]), while the majority of AR teachers preferred PF (defined as "directed at selfhood or individual development" [p. 4]) and CR teachers did not have a strong teaching model preference (p. 8).

Both the Gregorc and the Joyce/Weil research focus on the process of learning although from different standpoints--Gregorc focuses on how the individual learns and Joyce/Weil concern themselves with the instructional process. However, they both address integral components of the educational process, with the authors concluding that "learning and teaching are directly related in study and application" (Herbster et al., p. 3).

Butler (1986) defines "intentional teachers" as:  
professionals who make a purposeful effort to understand their own style of thinking, learning and teaching, to modify the way it biases their classrooms, and to extend their repertoire of teaching strategies (pp 1-2).

She writes about enhancing the self-esteem and positive self-concept of students, particularly adolescents who are undergoing:

the developmental tasks of forming personal identity, developing personal autonomy and understanding the meaning of relationships...[which] demand that the adolescent develop an understanding of self (p. 2).

It seems to me that even as adults and as teachers these processes are never-ending and as "intentional teachers" our underlying educational objective should be self-understanding, which will inevitably enrich our actual teaching efforts.

### ***Research Questions***

Employing Butler's (1984) explication of the potential outcomes of the study of the Gregorc model of learning style, I examined three major areas of teachers' lives: self-understanding, understanding others, and interacting with others (pp. 38-40).

Butler (1984, pp. 47-8) suggests that through the self-examination process teachers are trying to define their own psychological health and well-being, ultimately answering the question, "How do my beliefs and attitudes about myself and my teaching guide my decisions in the classroom?"

- Question One: "As a teacher, what learning styles do you employ? What are your natural, flexed, adapted, coping, resisting, or masked styles?"
- Question Two: "What educational experiences would confirm these views regarding your learning styles?"
- Question Three: "How does your understanding of learning style affect your teaching style?"
- Question Four: "How does analysis of your learning style affect your relationship with students and colleagues?"
- Question Five: "How does understanding your learning style profile affect your self-esteem or self-actualization?"

## ***Methodology***

I would anticipate that promoting a teacher's self-understanding in regard to style, would hopefully lead to greater appreciation and understanding of differences among individual students. I believe that the process would eventually aid in enhancing teacher-student relations and teacher efficacy.

This study utilized a case study approach, using an interview format with four teachers--two men and two women--one of each dominant learning style. I chose to study myself as one of the four teachers, partly so that I could enhance my understanding of learning styles per se, but also so that I could share in the personal experience of validation through self-understanding. My choice of the remaining subjects was mostly influenced by my personal knowledge of the teachers as persons. From casual, social observation, it seemed apparent to me that these persons could be described as being of the particular dominant learning style in question, that is, Concrete Sequential and Concrete Random. The Abstract Random subject was procured through canvassing fellow graduate students.

Firstly, to try to determine a person's dominant channel, I employed Gregorc's Style Delineator (1982). In order to validate and elaborate on those findings, I used Butler's (1984) questions which she recommends for assessing the "relative purposes of each of the style channels for self-realization and self-actualization" (1984, pp 17-21).

The number of affirmative responses and the nature of the answers to the sets of questions which she presents, indicated to me the teacher's natural style dominance, flexed style, adapted style, coping style, resistant style or masked style. (See Appendix A.)

To address the second research question regarding educational experiences in relation to learning styles, I selected one category from Gregorc's "Style Comparison " chart (An Adult's Guide to Style, 1982, p. 39) for examination in this study--"Thinking Processes." While it would have been interesting to examine the entire list of categories, for the purpose of efficiency, I selected this one, which I feel is highly representative of each learning style. I had the teacher-participants respond to the lengthy description of the style characteristics for this category (Gregorc, 1982, pp. 19-38) by providing examples of experiences from educational settings that illustrated how the style characteristics described their natural, flexed, adapted, coping, resistant or masked styles.

### ***Procedure***

My plan was to meet with the subjects three times and conduct two sets of interviews with each of the three teachers being studied, in addition to myself as one of the subjects. Prior to meeting with the subjects I conducted a self-study, a process that I feel was helpful in familiarizing myself with the procedure and which facilitated my understanding of how all four learning styles could be operant within an individual teacher.



At a preliminary meeting, the participants' natural, flexed, adapting, coping, resisting, or masked styles were determined in order to address the first research question. (See Appendix B for subjects' completed Style Delineator [1982] Matrix forms.) The participants were then provided with copies of Gregorc's descriptions of style characteristics for the "Thinking Processes" category examined in this study. (See Appendix C for Gregorc's complete "Style Characteristic" descriptions.)

The subjects were ensured of their anonymity throughout the course of the research. Their signatures were obtained on a letter outlining the nature of the research and the procedures to be used. (See Appendix D, "Ethics Letter.")

After a few days, the second question was dealt with in an interview. Interviews were carried out at a mutually agreed upon time and place, usually on the subjects' "home turf"--home or place of work, providing for a maximum comfort level. The interviews were taped, with the subjects' permission, in order to obtain a written transcript.

The audio-tapes of the interviews for each subject were transcribed for analysis. These analyses were made available to the subjects for verification and perusal. Slight changes were made accordingly to increase the accuracy of conveying the intended meaning.

At a third meeting, after an approximate one-month period, another interview was held in which responses to the latter three research questions were taped and transcribed. (These questions were not made available to the subjects prior to the interview so as not to prejudice their responses.)

The session typically began with a discussion of the subjects' feelings regarding the previous interview transcripts, as well as the subjects' feelings and reactions about being involved in the learning style analysis process. The audio-tapes were again transcribed and analyzed and copies were once again made available to the subjects for review and approval. Changes were noted and incorporated into the final copy of the study. (Copies of the self-study and transcripts of first and second interviews for each subject are not included, in order to enhance the degree of anonymity for study participants.)

The researcher analyzed the four case studies using Gregorc's lengthy descriptions of the characteristics of each corresponding learning style, attempting to match the subjects' actual responses or style of response with Gregorc's descriptions. In addition, I examined how the actual interview process proceeded, and my own part in the process as a researcher of a particular learning style. I was looking for common or contrasting themes, as well as a synthesis that might indicate some consistency of teachers' responses with their dominant learning style characteristics.

***Analysis of Case Studies***  
***Dominant Abstract Sequential***

As the researcher and Dominant Abstract Sequential teacher, I am a 40-year-old female who has taught Psychology and Human Relations for the past five years to various programs at the Lethbridge Community College. After completing a B.A. in Psychology some twenty years ago at the University of Lethbridge and working as a social worker at Alberta Mental Health Services for a total of about eight years as well as also having done some miscellaneous teaching-related jobs over the years, all in Lethbridge, I am currently completing my M.Ed. at the University of Lethbridge.

The results of the Style Delineator (1982) indicated almost equal scores in the following learning style categories (one point difference between each, in descending order): Concrete Sequential, Abstract Sequential, and Abstract Random, with Concrete Random, scoring significantly lower. In contrast, I responded affirmatively to almost all Butler's (1984) Abstract Sequential Channel questions, and only partially or conditionally to the other groups of questions. I was fascinated by the Abstract Sequential questions which seemed to describe aspects of myself that I immediately realized were integral parts of my personality but had previously been unacknowledged as such.

## Self-Analysis

### Natural Style: Abstract Sequential.

I feel that it is largely my Abstract Sequential thinking style that has made the study of learning style so appealing to me. To use Gregorc's descriptions as a guide to examining the thinking processes of each learning style and promoting teachers' self-understanding through intellectualization, is definitely Abstract Sequential in nature. In Gregorc's words, "[the AS] orders in a tree-like manner starting with a common core and branching into parts derived from the base." (1982, p. 23) The use of this process to analyze learning styles could be called a "mental matrix" or "intellectual formula" that Gregorc suggests Abstract Sequentials use in their analyses of experiences (1982, p. 23). In the category of "Approach to Life," Gregorc's description is again apropos of the design of this study: "It is this preoccupation with the logistics of what [she] encounters that prompt[s] [her] need to classify, label and box [her] thoughts and emotions into neat little compartments" (1982, p. 25). During the interview processes, this was sometimes difficult for the different dominant styles to deal with or follow, as I will discuss later.

In completing the task of providing examples from learning or teaching experiences that validate my conception of my natural, flexed, adapted, and coping styles, I used the description as a guide, and sentence by sentence, related the ideas to my experience. Examples generally came readily to mind and I was able to quickly record them. I feel this was due to the "analytical faculties" I possess as an Abstract Sequential-- the ability to "mentally outline, correlate, compare, and categorize data in a manner unsurpassed by any other style" (1982, p. 23).

This was the format I suggested for the other subjects, but they responded differently, as I will discuss later in regard to each.

Gregorc's description regarding the "Creativity" of the Abstract Sequential also applies directly to the nature of this present study:

The creativity of the Abstract Sequential reveals itself through [her] identifying new facts, thoughts, or new concepts based upon [her] ability to synthesize, analyze, and correlate disparate empirical materials. The AS is a master synthesizer and eclectic [whose] creations manifest themselves through a process of inventive synthesis rather than through discovery (1982, p. 24).

The plan of the study was to analyze each case study that represents each learning style and then examine them in relation to each other to obtain some synthesis. Two of the subjects, the Concrete Sequential and the Abstract Random teachers, both expressed the feeling that I had somehow captured their essence on paper. The CS teacher exclaimed, "'That's what I said!' Basically that's what I believed in and that's what I thought and I knew already" (p. 25). The AR teacher expressed "surprise...[at] how accurate..." (p. 26) I was in analyzing her learning style pattern which had been quite unclear during the actual interview.

**Flexed style: Abstract Random.**

In carrying out the study, my flexed Abstract Random style was also prominent. Although I was concerned about the course of the study and the types of information that I could glean from the interview processes, I was distinctly aware of each subject as a person. (I was careful to guarantee anonymity and supplied copies of their transcripts and analyses to each subject for perusal and approval.) Even the choice of subjects was made on the basis of whether I already felt comfortable with them. Of the three subjects besides myself, all were people in my immediate social circle--two are relatives and one is a fellow graduate student. Aside from the fact of convenience in making contact with them, another major reason for choosing persons so close to me, was the lack of need to first establish rapport, credibility, etc. This thinking process is obviously "anchored in feelings" as suggested by Gregorc (1982, p. 29). Particularly in situations in which I would have to interact closely with persons of different dominant learning styles, maximizing differences in every aspect delineated by Gregorc in his "Style Characteristics" (1982, pp. 19-38), I found this especially important. Similarly, in my choice of supervisor for the project, I chose a professor with whom I had already had a sense that I could work comfortably with him, having already taken a course from him. In addition, he was also a guest speaker in a Research course that I took, in which he explained his interest in the case study method. I have found him personable, accepting, and flexible--a self-professed Abstract Random--qualities toward which I find it easy to conform.

After each interview with each case study subject, I grasped an "overall theme [or] tapestry" (Gregorc, 1982, p. 30) which I used as the basis of my analyses. (I have long appreciated autobiographical or biographical types of work, also enjoying participating in their creation, as I did in writing and reading "social histories" as a social worker, and as I have recently participated in reflective writing in curriculum courses.) When that theme was difficult to discern, as with the Abstract Random initial interview, it bothered me until the "picture" came to me, usually all at once, accompanied by an overwhelming sense of elation. Even though each learning style represents different outlooks and approaches to the world, I have somehow been able to flex into an understanding of each, although during interviews I tended to display my Abstract Sequential channel more than others, evidenced by my repeated attempts to bring subjects back to my own line of thinking.

**Adapted style: Concrete Sequential.**

My adapted Concrete Sequential has been challenged by the format of this study. With four sets of analyses occurring simultaneously, and continuing about a month later, and with rough drafts and final copies, there are various and sundry piles around my work room. I have been submitting "work in progress" copies of the project to my supervisor and copies of transcripts and analyses to each subject, only adding to the confusion. I have been viewing the turmoil as a necessary evil in order to carry out a project that I am enjoying immensely.

My "consistent striving for perfection" (Gregorc, 1982, p. 19) is evident in the many research proposals (about five) which I submitted before finally settling on the current one. As for the "something tangible for [my] time, effort, hard work and resulting product" (Gregorc, 1982, p. 20), the mark for the project is simply, "Pass or Fail," but I strongly desire to please my supervisor, to meet his expectations, and also produce a work which I will be proud to have bound, bearing my name, and resting upon the shelf in the Faculty Lounge for all to see and read!

My limitations in "coerc[ing] ideas, people, places, or things into a logic pattern suitable to [me]" (Gregorc, 1982, p. 19) have been evidenced in the many set-backs I have experienced this semester in attempting to complete this project. I accepted a heavier teaching load than initially anticipated when I planned my workload for the semester. I already considered it full, with having to meet scholarship and graduate assistanceship qualifications of being a full-time student, do ten hours per week of research for the assistanceship, teach six hours per week, and somehow also keep a semblance of order in my personal life. I accepted an extra teaching assignment because I felt coerced in a way, bringing my teaching hours up to 11 hours per week for two months out of the semester. Also, all the incidental, unplanned semi-emergencies, and setbacks that occur in ordinary family life have also challenged my adaptive abilities.



The deadline of December 18, the date for submission of grades for this semester, has been hanging over my head like the proverbial "sword of Damocles." I have also been acutely aware of the fact that my supervisor will be leaving on sabbatical at the end of the semester, precluding the carry-over of the work to next semester if I wish to work with him to completion, which I do.

Coping Style: *Concrete Random.*

In formulating my topic and focus for this project, I experienced a sense of futility with having to write a proposal for one professor, to be graded for a research course, and then writing another proposal for the professor who was actually to be my supervisor. The fact that they had individual differences in their expectations was frustrating to me. My initial "Literature Review" was immense because of my difficulty in sorting through the varied field of learning styles. I attempted to solve the problem by including every aspect of the topic, which was difficult for the reader to understand. Each individual with whom I have discussed my possible research focus has made some comments, the collection of which has acted as a kind of "bag of tricks" which I had to sort through, much to my exasperation. My final focusing has been a tremendous source of relief so that I could begin work on the project itself.

### ***Dominant Concrete Sequential***

The Dominant Concrete Sequential teacher was a 38-year-old male, in his seventeenth year of teaching. This period had been interrupted only to obtain another year of university education some eight years ago, so that he has both a B.A. and a B.Ed. degree from the University of Lethbridge, with five years of university training. The majority of his teaching career has taken place in a small community within commuting distance of Lethbridge where he taught both junior and senior high school--Social Studies and P.E., having also coached the school basketball team for several years. This year marked a change for him in a move to another rural school in a somewhat smaller community, but closer to Lethbridge, where he now teaches grade seven through nine--Social Studies and Math.

Responses to Gregorc's Style Delineator (1982) were surprisingly inaccurate. The CS teacher scored 10 points higher in Concrete Random than in Abstract Random (later found to be adapted and flexed styles, respectively), second highest in Abstract Sequential (resisting style) and lowest in Concrete Sequential, which was later found to be his dominant learning style. Answers to Butler's (1984) questions, however, were much more revealing about the relative importance of each learning style, pointing to a dominant CS style.

## **First Interview**

### **Natural Style: Concrete Sequential.**

The progress of the entire interview, the nature of the teacher's responses and the content of responses were highly indicative of a Concrete Sequential learning style for the subject interviewed. The CS teacher studied beforehand the materials which I had provided for him, making notations regarding examples he planned to discuss. The discussion followed a straightforward, logical sequence, and we never veered off the topic. He was convinced that Gregorc's description of the Concrete Sequential learning style fully described his teaching style.

Concrete examples were always given for each statement made about his "Thinking Processes," in keeping with Gregorc's description of the 'real' world for the dominant Concrete Sequential: "The concrete, physical, objective world...static, objective, and predictable" (1982, p. 19). The CS subject used the very words "predictable" and "routine" to describe his teaching behaviors: "I'm a very predictable person, I have certain routines...I feel comfortable doing that because then the kids know what to expect" (p. 4).

In his lengthy, detailed description of his unit planning which was aimed at preparing the Social Studies student for later analytical thinking, the CS subject exemplified Gregorc's statement regarding "Ordering Ability," that "he thinks by using a 'train of thought' which has a clear beginning and a clear end" (1982, p. 19):

You read, you memorize, you spit it out. That's where I start. Then after you regurgitate, you gain the knowledge. After you get the basic foundation, then after you understand that then I can get into analysis..." (p. 6).

Regarding "View of Time," the CS illustrated that "he is a firm believer that the key to the future is in the hands of present behaviour and actions" (1982, p. 19) in that he lamented the types of education given the student teachers who are "coming out" of the university these days. He stated that he felt sorry for them because they were not prepared to deal with the challenges of social problems in the schools today (p. 18).

The CS described his thinking processes as "methodical" (p. 1). He said of himself that he does things in "stages or steps," carefully and sequentially outlining his teaching style in which he felt it was very important for students to have a "basic foundation" (p. 1) of knowledge that he helps build through step-by-step lessons.

In regard to "having finely tuned powers of the physical senses...discriminates between and among sounds, tastes, and smells extremely effectively" (Gregorc, 1982, p. 19), the CS teacher stated that he "knew exactly what they're talking about" (p. 3) when students are talking in class rather than working as they are supposed to be doing.

The "outer orientation of the CS...[which] results in his attributing the causes of subjective thoughts and feelings to environmental stimuli..." (Gregorc, 1982, p. 19) was exemplified by his statements regarding the badly disciplined students in his school. He felt that they had had poor administration and they had got bad discipline as a result. He went on to explain that he does not care to try and analyze a student's behaviour problems from the standpoint of emotional or home problems because he has "no control over that kind of a situation" but instead focuses his efforts in finding a solution to the problem of the student's unsatisfactory school work (p. 5).

The CS's "natural structure" and use of "prescribed formulae in dealing with the world" was embodied in his description of having "five different solutions to the problem [of a student not doing his school work]" (p. 5). To the question of whether he was a traditional teacher, he responded, "Yes, exceptionally ...very traditional." He gave as examples his seating plan which never varies, keeping his desks in straight rows (straightened at the end of each class), always teaching from the front of the room, rarely using group work, and using "very little creativity in class" (p. 6). This would seem to depict well Gregorc's descriptor: "ultraconservative" (1982, p. 19).

"When life experiences appear to be chaotic...he has been known to coerce ideas, people...or things into a logic pattern suitable to him" (Gregorc, 1982, p. 19). The CS teacher's response was, "That's right, exactly, and I use force..." (p. 6).

"Consistently striving for perfection, the Concrete Sequential can work with the exactitude of a machine..." (Gregorc, 1982, p. 19). This perfectionistic attitude was readily admitted, although the CS teacher knew that it could never be achieved. His behaviour of doing things over and over in order to get them better was exemplified by his use of overheads similar to flash cards, in order to drill his grade seven math students who were poor in computational skills. He had devised a transparency with "a little slot hole" so the students could see the questions but not the answers, and made a practice of drilling for 10 minutes of each class, sliding the answers up one by one (p. 7)--much like a teaching machine.

According to Gregorc, the CS is:

able to link successively-connected parts and divide facts and figures into categories and subcategories. His ability to organize logically produces a linear organization capacity that is unsurpassed by any other style (1982, p. 19).

The CS teacher under study felt that those words would portray his unit planning, his taking apart of the units and reorganizing them:

For example [in unit planning] I rip it apart and put it into certain specific areas. I take the whole...I know exactly what should be taught, then I break it down but then there's got to be a sequence of events (pp 7-8).

Gregorc's suggestion that the CS is "usually not interested in abstract theories" (1982, p. 19) was definite in the case of this particular CS teacher. He strongly expressed his opinion that new teachers "coming out" of the university should spend less time on the liberal arts program and more time on dealing with practical situations. He was vehement in this stance that the student teachers should be "technicians, rather than theorists" (p. 18). A teacher's ability to deal with a real situation he described as "practicalness to me...better than theorizing" (p. 19).

The CS's "'Validation Process'--validity, proof, and clear-cut discernment of anything is decided by and through the physical senses" (Gregorc, 1982, p. 20) was evidenced by his "it works for me" type of reasoning regarding his teaching techniques. He stated that he felt really in control of his teaching once he was able to establish structure in his teaching, which came as a response to an unstructured teaching style in vogue at the time, an experience which he described as "murder," because the kids have too much freedom and not enough discipline (p. 12).

Gregorc's depiction of the CS "Focus of Attention" includes the "making, gathering, appropriating, controlling, naming, labeling, and owning of persons, places and things" (1982, p. 20). For the CS teacher studied, his main focus in his teaching was control of his students. In his words:

I'm looking for a kid that's disciplined who will do what I want them to do, when I want them to do it. I'm looking for good study habits...I'm a demanding type of teacher, and if I don't like what they do, then I go out to try and change them... (p. 4).

Regarding "Creativity," Gregorc describes the CS as a "creative producer...who can produce a concrete product or prototype from someone else's idea (1982, p. 20). The above description of the CS teacher's planning seemed to fit this description precisely.

The "Approach to Change" characteristic of the CS being "adverse to change" seems to be exemplified in the CS teacher developing a structured routine and adhering to it rigidly as a means of defining his expectations for the students. He colorfully described his difficulty in adjusting to teaching during his first year--"it was just murder"-- until he learned to be structured (p. 12).

The CS "Approach to Life" is:

...practical, predictable, and conservative...concrete in his view and perfection-oriented in his action...[he] expects to receive something for his time, effort, hard work and resulting product. He therefore anticipates a reward...or recognition...or a compliment...for a job that he considers done well... (Gregorc, 1982, p. 20).

Interestingly, the dominant CS teacher described his response to praise in discussing his flexed AR style: "I'm the type of person that really responds to praise...it really works...the more you praise me, the harder I work..." (p. 9)

In the interview the CS teacher described his "Environmental Preference" directly in line with Gregorc's description: "...quiet, ordered, predictable and stable...want[ing] objects in his environment to... be ordered..." (1982, p. 21)

He was most excited to read the above description that described him so accurately, and responded with:

It just drives me crazy to have kids have paper on the floor, or to have my room disorganized and have everything cluttered. I have to have my shelves clean, everything has to be like this (p. 8)

**Flexed Style: Abstract Random.**

The dominant Concrete Sequential seemed to be able to flex into the Abstract Random style with little difficulty, even though they are polar opposites. He described the difference as due to a feeling that the "pressure's off" (p. 12) when he deals with students on a one-to-one basis for counselling types of conversations. Even though at the time of the interview, the CS teacher had only been at this new school for just over one month, and he had been "classified as the disciplinarian--giving kids heck in the halls" (p. 11) he had had the experience of students coming to him one-on-one. At these times he would "try to be a listener."



He stated that he was "more subdued" mainly because he no longer had "to perform" (p. 12) as in the classroom situation. This would seem to correlate with Gregorc's description of the AR as being able to establish "rapport with individuals and tune into their inner patterns, moods, and motivations" (1982, p. 29). In addition, the CS teacher reported that he is able to socialize easily with anyone and has "no problems" (p. 12) fitting in on a new staff, which he did very recently.

Regarding Gregorc's description of AR "Thinking Processes": "...can also be shrewdly perceptive, critical and suspicious due to an innate ability to see behind the outward appearance of a person, place or thing" (1982, p. 29), the CS teacher responded that he requires "some time to think" and can then "make really good judgments about lots of people" (pp 10-11). At the same time, he admitted that he "can be 'taken for a ride' as well" (p. 11) by students who take advantage of his tendency to focus on his own activity rather than the behaviour patterns of others. Gregorc describes the AR's "Focus of Attention" thus: "he often directs his attention only to that which he finds has personal meaning" (1981, p. 30). This would seem to describe the CS teacher's behaviour when he unwittingly plays into a student's scheme to meet a fellow student in the washroom at a specified time each day:

...I eventually catch up with them but sometimes it takes me a little bit longer to be aware of something like that or sometimes somebody else tells me and I say, 'Is that right? You know, I never thought of it that way (p. 11).

In reference to Gregorc's characterization, "highly retentive of themes, overall tapestries, and 'first impressions,'" (1982, p. 30) the CS teacher noted that he is greatly affected by first impressions. Discussed in relation to meeting the students on the first day of school: "When I met them the first time I knew what was going on...my first impression pretty well holds true..." (p. 14).

Coping Style: Concrete Random.

It was decided during the course of the interview that this third learning style would likely be classified as the CS teacher's coping style rather than adapted style. He even had difficulty understanding the descriptions of the CR's behaviour and was at a loss to think of examples in his own behaviour. In fact, he was able to explain how he was unable to work or think in CR terms of "emphasizing intuition and instinct" (Gregorc, 1982, p. 35). Conversely, he could always explain his reasoning that was the basis of his behaviour. If presented with a situation and asked for a solution, he finds it "very difficult" (p. 14). He gave as an example, a student not being able to understand an explanation, and his own difficulty in finding an alternative explanation:

...if I have a child and he doesn't understand me. Well, I really have to really sit back and think about it. I can't just, "Bang," give another...alternate explanation. I have to really sit there and really...[it's] quite stressful... (p. 15).

The above description of the CS teacher's behaviour is directly opposite to Gregorc's description of the CR's "Approach to Change":

This individual can be the 'trouble-shooter in an organization. He...will redesign and restructure as he goes along...he is as changeable as his environments...[he] thrives on changes that demand challenge... (1982, p. 36).

The dominant CS teacher went on to describe his frustration with students who will not follow the rules of mathematics or, to his horror, suggest that they would like to do another project than the one he assigned: "It drives me nuts...I have a hard time understanding why they can't understand the rules...it really boggles my mind...I just shake my head..." (p. 16).

**Resisting Style: Abstract Sequential.**

In response to Butler's (1984) questions which she suggests in order to examine the relative purposes of each style channel, the dominant CS teacher stated that he would answer "no" to every question except the first, "Do you love argumentative debates?" (p. 19). Upon further discussion, however, it was revealed that he liked to argue "for the sake of arguing...it's a matter of emotion rather than logic..." (p. 18) exactly contrary to Gregorc's AS description:

The thinking processes of the dominant Abstract Sequential are based on intellect and the laws of logic. Judgments are based upon criteria which are acceptable to tradition, scientific convention, and/or the intellectual atmosphere of the present time or academic community...If free from emotional attachment, bias, and prejudice, the AS can detach himself from the issue he is examining and carefully research and weigh values, facts, and numerical data... (1982, p. 23).

The CS teacher responded with a "very negative" attitude (p. 18) toward "the intellectual atmosphere of the academic community" which he equated to the activities of a university. He expressed extreme impatience with theorizing as opposed to emphasis on practical techniques. His reaction to persons who are, in Gregorc's words, "highly verbal...monopoliz[ing] a conversation by offering his rationale, opinion, theories, sources, etc." (1982, p. 26) was "boredom...it gives me a very negative attitude..." (p. 19). He stated that he tolerated professors like this in university because attending their classes was simply a "means to an end" (p. 19). One of the "Major Intolerances" listed by Gregorc concerning the dominant Concrete Sequential is his dislike of "discussions which appear to be 'academic' rather than down-to-earth" (1982, p. 21).

To sum up, the study of the dominant Concrete Sequential followed a predictable, sequential order, conforming easily and directly to descriptions of the various learning styles as dominant, flexed, coping, and resistant. There was a feeling of having obtained a nice, neat package once the interview was over. The CS teacher even expressed his satisfaction at analyzing his teaching style in this manner, stating that "it was fun to do for me because I could see myself" (p. 8).

## ***Second Interview***

At the second interview the Dominant Concrete Sequential stated that the process of analyzing his learning and teaching style had had no appreciable effect on his teaching style, relationships with students or colleagues, or his self-esteem.

He had found the process interesting in terms of being able to "put words" (p. 21) to what he already knew about himself and his style of teaching. In fact, the categorization of his learning and teaching style was satisfying to him, like the typical CS, feeling comfortable in being able to: "divide facts and figures into categories and subcategories" (Gregorc, 1982, p. 19). He noted an instance in discussion with colleagues regarding different models and educational theories that he humorously interjected the comment into the conversation, "I'm Concrete Sequential learning style" (p. 22).

As Gregorc suggests, "the Concrete Sequential is usually not interested in abstract theories" (p. 19). This was illustrated in the interview when the CS teacher made it plain that theorizing was for someone else less practical than himself, with the comment, "It's interesting to see that somebody else--this guy, Gregorc--has developed theories based upon [learning styles], whereas I just do it" (p. 21).

The CS "Validation Process" of requiring "proof and clear-cut discernment of anything...through the physical senses" (Gregorc, 1982, p. 20) was exemplified in the CS teacher's comment that the process of analyzing his learning style "was interesting because it just verifies for me my style of teaching and my philosophy of education" (p. 21).

Furthermore, according to Gregorc:

validation is also made via authorized and credentialed experts who have had accredited instruction and training...[placing] great faith in specialists who explain phenomena which are not personally physically verifiable (1982, p. 20).

In addition, the CS teacher's adamant statement that he has not changed as a result of this analysis of his learning style fits in with Gregorc's description of the CS "Approach to Change": "he can find it extremely difficult to break a habit or an existing pattern of operation." (1982, p. 20). He continued to display his "Thinking Processes" of "coerc[ing] ideas, people, places, or things into a logic pattern suitable to him" (Gregorc, 1982, p. 19) in his insistence that a low-achieving student should attend a school that had a program to suit his needs, but since he refused to change schools, the CS teacher did not feel it was his obligation to change his program "to fit this kid" (p. 24). Since the student has the opportunity to get individualized attention elsewhere, he would just have to try to conform to the current teaching style.

Similarly, the CS teacher's statements that his teaching style is "basic" and common sense" and something that students should be able to follow, regardless of their learning style, "because it's organized" and that "the kids have to mold themselves to your style" (pp. 22-23) epitomizes Gregorc's description of CS "Observable Traits" that: "the CS is quite convinced and satisfied that his ways will work, have worked, and will work for others if only they would 'see the light' and do things the right way" p. 21).

One of the "Major Intolerances" that Gregorc lists for the CS, "individuals who are flagrant violators of norms," (p. 21) was referred to by the CS teacher as the parent of one girl in the class who was "intelligent, but not a genius" (p. 23) and who was bored by the structure of the class. The CS teacher made it clear to the parent that he "would not bend" for one student, but would continue to try to foster "academic discipline" in the entire class who had "run wild" (p. 23) for several years. I feel that the CS teacher was displaying his intolerance for "physical and environmental conditions which are not conventionally correct" as well as "individuals who are 'too emotional' in their decisionmaking" (Gregorc, 1982, p. 21).

The entire tenor of the interview was somewhat impatient, which I interpreted to be intolerance of "discussions which appear to be 'academic' rather than down-to-earth" (Gregorc, 1982, p. 21). Whenever I posed an abstract question regarding the effect of the analysis process, the CS teacher brought the discussion back to the concrete--"this is how I do it, this is what happened recently."

Indeed, the whole progress of the interview, I felt was entirely predictable and not surprising in any way, in keeping with Gregorc's description that, "the dominant CS is a realist who is practical and predictable" (1982, p. 20). His self-esteem was and is well intact, "I always knew what kind of person I was and felt all right about it. I never changed because I think that was the foundation I was taught in school" (p. 24).



### **Dominant Abstract Random**

The dominant Abstract Random teacher was a 37-year-old female who has taught "clinical instruction" on a part-time basis for over ten years. She received her R.N. 18 years ago and has since completed additional courses in Nursing and Social Work. She obtained her B.N. in 1988, and has since entered the M.Ed. program at the University of Lethbridge. A vocational goal is teaching at the university level.

Responses to Gregorc's Style Delineator (1982) were somewhat accurate, with highest scores being only one point apart but in reverse order for Abstract Random (natural style) and Concrete Random (flexed style), but with Concrete Sequential (her adapted style) scoring significantly lower than Abstract Sequential (which was later found to be her resisting style).

Responses to Butler's (1984) questions were not as helpful as in determining the dominant styles of other subjects, with delineation only becoming clear upon actual analysis of the interview transcript.

## First Interview

### Natural Style: Abstract Random.

In stark contrast to the interview with the dominant Concrete Sequential, the one with the dominant Abstract Random, his polar opposite, was highly non-directional. It was difficult to discern which learning styles could be categorized into natural, flexed, adapted, coping, resistant, or masked. Both the AR subject and myself expressed frustration over this difficulty. I feel that as a dominant Abstract Sequential, I was unconsciously attempting to "classify, label and box" (Gregorc, 1982, p. 25) her behaviour, much to her consternation:

"All this talk about styles just makes me nervous...my God, if I don't fit into something in this interview, I'm going to be a write-off [laugh]..." (p. 5) "This has been a very frustrating exercise..." (p. 17)

Upon reflection, I can see in terms of the Abstract Random's "World of Reality" that it must have been terribly disturbing:

The Abstract Random lives in a world of feelings and imagination...it does not stand still very long. This is a fluid, incessantly-active world that does not accede to statistics or man-made models (Gregorc, 1982, p. 29).

Her response to my efforts to categorize her learning styles was:

"...these are only four styles that the entire world should have to fit into...there have to be blends..." (p. 13).

Gregorc's depiction of the AR's "Ordering Ability" is particularly descriptive of the way the interview proceeded, as well as the comments that the AR teacher made as I attempted to steer her in the direction of my thoughts:

The dominant Abstract Random's ordering ability is non-linear and multi-dimensional. Events are not perceived as occurring in a point-by-point progression. Instead, events are experienced holistically by 'tuning in' to them fully as a person would experience a wave on an entire sea (1982, p. 29).

At periodic intervals during the interview she would indicate her perception of events as having many nonfactorable causes joining naturally to form an event (Gregorc, 1982, p. 29):

And it's always a process...nothing ever happens and it's over with...I don't even see in terms of isolation individual things. I don't even see patients being separate from the caregivers. It's all part of the same interactions ... (p. 2).

...looking at the role that everybody plays...they're not in isolation...that's the part that really intrigues me--trying to figure out the holistic dynamics of what's going on...the essence of what's going on here...I think you have to understand things in a holistic context before you can hope to have any impact back on them...(p. 4).

The Abstract Random's "View of Time" consists of:

...'the moment.' Since the past and present are merged into a oneness, tomorrow can be significantly different...This attitude regarding time...permits [her] to hold the position that a single person or event can and does make a significant difference (Gregorc, 1982, p. 29).

The AR teacher did not prepare for the interview even though I had provided her with the descriptions and questions that we were going to discuss. Her explanation was, "What if you had changed the agenda when I got here? That would have been a waste of my time" (p. 17).

There were several instances of the AR teacher's outlook that she as an individual could make a difference in her environment. She described in detail how she singlehandedly, as manager of a medical department, organized the department, analyzed patient needs, advertised for new staff, wrote parameters of their responsibilities, set up the scope of the program, etc. (p. 9). In another project, she was begged by a professional friend to assist in drawing up a proposal for funds, as the only person who could "pull it together for us" (p. 14). To sum up her efforts, "I never want to undertake these things as an academic exercise to prove I can do it...it's always to make an impact, on who it's going to serve..." (p. 10).

Gregorc characterizes the dominant Abstract Random's "Thinking Processes" as being "anchored in feelings. Judgments are made in relation to prior emotional experiences--be they positive or negative" (1983, p. 29). The AR teacher discussed her handling of a problem situation with a student who was not emotionally prepared to cope with the nursing situation. The AR teacher as her supervisor, would demonstrate her caring for all parties involved--the student, the patients, as well as herself--by sending the student home. She would worry afterward, however: "I would internalize it, wondering how they were doing, whether they see it as a positive thing or as a punitive thing..." (p. 2). She stated outright that the "underlying motivation" (p. 10) for all her behaviour and decisions is caring.

In classroom presentations, the AR teacher is sensitive to the class's needs, and to the fact that "every class is different" (p. 4). She explained how she respects individuals' rights to confidentiality and privacy by pretending to meet them for the first time even if she already knows them from individual counselling situations.

The AR's mind is like a psychic 'sponge' that can absorb ideas, information, vibrations, and impressions as they flow around and through [her]. [Her] thinking processes can also be shrewdly perceptive, critical, and suspicious due to an innate ability to see behind the outward appearance of a person, place or thing (Gregorc, 1982, p. 29).

The AR teacher explained that in her evaluation practices, intuitive kinds of feelings are felt first, but realizing that for her superiors she needs to "document and redocument", she does not talk to them about her "gut feelings" (p. 3).

According to Gregorc, The Abstract Random can:

...establish rapport with individuals and tune into their inner patterns, moods, and motivations in an uncanny way. Such rapport permits both the qualities of sympathy and empathy to emerge (1982, pp. 29-30).

These qualities would seem to be exemplified in the AR subject in her disclosure of information concerning her relationship with clients in sexual counselling:

Clients usually feel very comfortable in disclosing personal information. Even aside from sexual things, I usually find that people have a trusting relationship ...the number of sexual disclosures I got compared to other counsellors is much higher... (p. 3, 4).

"The AR is highly retentive of themes, overall tapestries, and 'first impressions'" (Gregorc, 1982, p. 30). This was evident not only in classroom behaviour, "tuning into that group sensitivity" (p. 4), but also in her outlook as a student: "I don't even see my courses as being

isolated...it's all connected...one gives you insight into the other..." (p. 4-5); and generally in her approach to problem situations:

"I love to get that broader picture...analyze what's going on...being able to figure out what's the role of each one of those players..." (p. 5); and even the current interview: "...I want to understand what I am and how I function...I hate when you feel like you can't get to the core of something..." (p. 18, 19).

Regarding the AR's "Focus of Attention," Gregorc suggests that the dominant Abstract Random "concentrates [her] energies on relationships" (p. 30). Evidence of this was apparent when the AR teacher referred to a "dear friend" who requested her help in formulating a proposal (p. 14) as well as her caring for the anonymity of counselling clients as mentioned above. Even when "firing" an incompetent colleague, she first attempted to try to work with and around her, before re-advertising the position and not rehiring her (p. 10-11).

**Flexed Style: Concrete Random.**

The AR teacher appeared to flex so easily into the Concrete Random style that it almost defied categorization as a flex style rather than another dominant style. After much dialogue however, it was felt that once the underlying motivation of caring was operant, the Concrete Random learning style became immediately functional. She revealed how two lawyer friends will call her for her views on scenarios. She is "always able to come up with a different point of view" (p. 6). This would seem illustrative of the CR's "primary ability, intuition [which] is used to see into and beyond objects in the concrete world to try to identify their nature and possibilities" (Gregorc, 1982, p. 35).

In addition, the AR teacher stated that she:

...can always think of a million options...because there's always a million options for any kind of problem or interaction...but you can always take it further and think what would be the spinoff effect if I chose this... (p. 6),

indicative of Gregorc's description of the CR's quick and impulsive thinking processes which are also:

...independent and insightful...[her] mind mak[ing] the transition from fact to theory with amazing speed, making 'intuitive leaps' in exploring unstructured problem-solving situations (1982, p. 35).

The AR teacher, in relating a recent incident when her help was solicited in a project, found herself unconsciously problem-solving, even though she had previously told her friend that she didn't have time, and once conscious of her behaviour, mentally chastising herself for "wasting her

weekend" (p. 14).

She also outlined the steps she used to organize and analyze the needs of a medical department, spearheading her own research project. She described it as "just one of the logical steps I had to go through...in coming to an understanding of what was needed..." (p. 8-9). In this way, the flexed Concrete Random style seemed to be directly serving the Abstract Random style which needed information about the broader picture discussed earlier.

In a problem-solving situation, the AR teacher finds it "really easy to sit down and look at all sides, and figure out what it is we are going to have to do, come up with..." but she is vehement about disliking group work: "I hate having to convince, or I hate having to try to explain why I'm thinking of stuff...Do I have to fill in the gaps for them?" (p. 12) In Gregorc's words:

This same uncanny ability ['intuitive leaps'] manifests in making the transition from theory to fact and leaves the Concrete Random unable to explain his intervening steps of the sources of his solution (1982, p. 35).

Gregorc's submission that the CR lives in "an air of expectancy" (p. 35) is stated succinctly by the AR teacher: "I sometimes wonder if I ever live for what's happening right now..." (p. 6) and in regard to writing papers as a student, "...I love that internal process...that developmental stage...like when your whole mind is racing..." (p. 8).

In describing a CR's "Creativity," Gregorc states that: He is the true 'idea' man who researches, gathers, produces; he often leaves the detail and completion of his projects to others...the result of his productivity may well be the building



blocks or the cornerstone vital to any growing organization or society (1982, p. 36).

The earlier description of the AR teacher's reorganization of a medical department is again a case in point. She elaborated on the fruit of her labors:

...I came up with the need for the program [for a specific medical disorder], which was a real need, because they're seeing something like 300 patients a month now...I'm good at getting overall pictures...and getting things in motion and coming up with new and creative ways of doing things...I would have no more interest in being that [medical] educator than flying to the moon... (p. 9).

Gregorc's description of the CR's "Approach to Change" is also apropos:

The dominant Concrete Random is...often the instigator of [change.] This individual can be the 'trouble-shooter' in an organization. [She] can eliminate what is old and nonessential; moreover, [she] will redesign and restructure as [she] goes along...[She] refuses to be entrenched in any one place for long periods of time. [Her] diverse careers and job relocations may reflect his attitude. The CR. thrives on changes that demand challenge (1982, p. 36).

From her biography, it is apparent that the AR teacher has studied and worked in various locations. At another meeting the AR teacher had revealed some of her many job changes that had been motivated by her inability to tolerate certain working conditions, to the fact that her work was complete, and because she was actively seeking other challenges.

**Adapted Style: Concrete Sequential.**

Although most of the time in the interview was spent explaining her dominant Abstract Random and flexed Concrete Random style features, it was evident that the Concrete Sequential style was operant as an adapted style. The AR teacher was very aware that others did not necessarily value intuitive kinds of decisions and she therefore consciously adapted to the demands of the situation. The clinical nursing situation she described as requiring documentation and redocumentation, and she therefore "set out to either prove or disprove that intuitive kind of feeling [about a student's progress]" (p. 2). She readily agreed that it was the job that required adaptation to a more rational type of evaluation system. In her own words, "...I find it easy to adapt to what they would perceive as being logical" (p. 13).

The AR teacher was unable to think of any educational situations in which she had to almost grit her teeth to tolerate a learning style, but she did describe her adaptive efforts at avoiding her in-laws, whom she described as "very guarded emotionally, very rigid kind of people..." (p. 16) and who seemed to conform to the description of Concrete Sequential:

naturally structured...[use] prescribed formulae in dealing with the world...critical and ultraconservative...known to coerce ideas, people, places, or things into a logic pattern suitable to [them]... (Gregorc, 1982, p. 19).

The AR teacher revealed that her in-laws hardly know her first name even after 15 years of marriage to their son, and they won't acknowledge the fact that she is back in school, which they think is the "most disgusting behaviour" (p. 16).

She actively engineers things so that she can avoid contact with them through such devices as scheduling partially separate vacations and by taking frequent naps when staying at their home.

**Resisting Style: Abstract Sequential.**

For some unknown reason, during the interview I had the idea that the AR teacher's flexed styles were both Concrete Random and Abstract Sequential. However, when I reread the transcript, it became apparent to me that she actually resists the Abstract Sequential style. The whole idea of categorization of learning styles per se was disturbing to her, as discussed previously, with the major motivation for participating in the study at all seeming to be her own AR need to understand herself and how she functions (p. 18). She questioned the importance to my overall project the necessity of identifying each of her learning styles and how they operated (p. 6). She either had difficulty understanding the concept of the relative purposes of the different style channels as suggested by Butler (1984) or did not care about that kind of analysis. When I tried to summarize with a description of the dynamics of her learning style channels as I analyzed them, she responded noncommittally, "Well, as little as I understand all this..." (p. 16). She found it a very frustrating exercise (p. 17) but offered to do more reading and thinking on the matter, by putting her Concrete Random learning style into action:

The CR is usually busying finding the critical or missing link, the coherent principles, or the modus operandi that makes something fit into and function in the everyday world (Gregorc, 1982, p. 35).

Her motivation, however, seemed to be fulfilling her commitment to me to participating in the study:

...a skill that I use a lot is...I go to bed thinking...I do creative visualization...I almost do a clearing kind of thing, sort of focussing of attention...I'm positive I can do this...I know I have the resources to do this... (p. 19).

To questions about her analytical process, describing the Abstract Sequential's "Approach to Change" in that the AS does:

much cross-checking and deliberation...consider[ing] both sides of any question or issue and logically construct[ing] mentally both the scope and sequence of either (Gregorc, 1982, p. 24),

she responded, "I look at it more as overall intent of the entire action...I wouldn't look at them as individuals, but as representing the broader social conscience..." (p. 5). Later, in response to the same type of question, "No, this is what we could predict might happen...because there would always be the expected and the unexpected..." (p. 7). Her Concrete Random "air of expectancy" resisted my Abstract Sequential efforts to have her look at each possibility one by one.

Similarly, in her efforts as a student, she stated that she found it upsetting to have to hand in a paper at any designated time:

"...the most disappointing thing of anything is even if you have to write a paper, just finishing a paper...I can't finish this paper because there's more that's going to happen'...when they say 'work in progress,' I think they should just put on there, 'still living'...(p. 8).

## **Second Interview**

Again, at the second interview the Dominant Abstract Random teacher's main focus was the "world of feelings and emotions" (Gregorc, 1982, p. 29). She repeatedly discussed her emotions, often mixed, not only in relation to the interview and analysis process, but also regarding her job, personal life, and student experiences.

In regard to the learning style analysis, she reiterated her previous feelings of fear that she "would not fit in" to a category of learning styles (p. 29), even to the point of dreading the reading of the transcript and my analysis--"...this has been sitting on my desk for how long?...Well, we won't get to that!"(p. 25). However, she was quite "surprised...[at] how accurate" the analysis was (p. 26). She likened it to the experience of "reflection" in that she had experienced a sense of "permission--'yeah, it's OK'--to display that human side of you" (p. 24).

In relating the analysis process to her job experiences, she stated that in the past she has had "this feeling that I don't fit" (p. 28) and that at times she feels a "sense of grief" that she cannot view the world as other nurses do in her field, that is, being more concerned about the concrete--what she calls "petty stuff" (p. 28), like whether there are enough dressings on the tray. She goes on to describe the "continual discomfort" that she feels within the nursing profession, but concludes that what keeps her in it, is the unique opportunity to "express yourself through your work...[being] so intimately involved" with patients (p. 28). She reported how she has begun to approach the needs of patients and students with more "sensitivity."

She illustrated with a situation in which she had attempted to empathize with a patient's feelings of fear and anger, and had attempted to relate this understanding to the student nurse who was dealing with the patient (p. 23).

The AR teacher recounted how, when she gets together with "people the same as me" they can use a shortened form of communication because the friends are able to "sort of think the same" as each other, so readily that few words are necessary. She claimed to "feel really alive" when working with those kinds of people, although she admitted that you "never ever get anything done" (p. 27).

The AR teacher felt that as a result of the analysis process, she had developed an increased sense of tolerance, due to the realization that "everybody is different" (p. 21). In the past she has resisted working in groups because of differences in personal agendas, but recently, she forced herself (with much humour) to focus and become task-oriented to please her partner and "it sort of changed my belief that I can work with someone else...I learned about myself in that..." (pp. 21-22).

The AR's "World of Reality--fluid, incessantly active, that does not accede to statistics or man-made models" (Gregorc, 1982, p. 29) was illustrated in the AR teacher's discussion of new-found awarenesses this semester, but her unwillingness to "narrow it down to learning styles" (p. 24). Instead, she related the learning style information and insights to various other aspects of her life. She mentioned a conversation with a friend regarding how "we're trained to distance ourselves" from others in social contacts, but that the learning style analysis process has "been a validation of things I've tried to discipline myself out of" (p. 24).

As for the applicability of the process, she felt that because "nothing ever happens in isolation" (p. 29) that her understanding of learning styles would become part of her problem-solving skills in attempting to understand difficulties in interpersonal relationships.

The progress of the interview itself again reflected the AR's random "Ordering Ability" in that it is "non-linear and multi-dimensional...events are experienced holistically by 'tuning in' to them fully..." (Gregorc, 1982, p. 29). The research questions were not posed or answered in order for the most part, but the AR teacher controlled the conversation, flowing freely from one topic to another and covering the subjects in roundabout ways. Furthermore, in regard to "ordering ability," Gregorc suggests that the AR perceives that "an experience [has] many nonfactorable causes joining naturally to form an event" (1982, p. 29). The AR teacher reported experiencing a feeling of connectedness--"this whole term, everything I've learned from every angle is that it's OK to be connected" (p. 24).

Understanding of learning style seems to have been absorbed into the "AR's mind...[which is] like a psychic 'sponge' that can absorb ideas, information...impressions as they flow around and through [her]" (Gregorc, 1982, p. 29). She has become:

a bit more conscious in explaining things...When I'm instructing, I'm more conscious of [students'] needs. There are people who do need every step...[I am] more tolerant, perhaps...everybody is different... (pp. 20-21).

She has also become more insightful regarding patients' points of view, acknowledging negative feelings, and attempting to communicate care and understanding of these kinds of feelings (pp. 23-24).

Her awareness of her students' needs for further explanation is comprehended through "the cross-eyed look on their face" (p. 22).

The AR teacher's acceptance of my analysis of her learning style seems to have been sanctioned on the basis of her "inner guidance system which is based on [her] own personal objective and subjective experiences" (Gregorc, 1982, p. 30). The fitting in of her learning style awareness with other aspects of her life this semester has seemed to qualify as proof in the sense that they "resonate in harmony" (p. 30).

Gregorc's contention that the AR's main "Focus of Attention" is on relationships is again strongly supported by the AR teacher's frequent mention of relationships--with patients, student nurses (pp. 22, 23-24), friends (pp. 24, 27), and co-workers (p. 21, 28). She refers to having felt "like an outsider" in her profession because her concerns were never the same as most other nurses (pp. 27-28).

As Gregorc states in regard to "Approach to Change:"

The dominant Abstract Random's approach to change is subject to [her] current emotional/spiritual attitude and the intensity of [her] interest in that which is being subject to change...[she] can authentically 'change over night' because of an in depth 'change of heart' or having 'seen the light' (1982, p. 30).

The tone of the AR teacher's responses seemed to reflect a new awareness and appreciation of herself as a person. Not just in reaction to the learning style analysis, but in combination with all her experiences during the semester, the AR teacher experienced a validation of the "real" her-- "it's OK to be human...it's OK that I am sort of more emotional..." (pp. 24-25).



The AR teacher's "natural exuberance and approach to life [which] is intensely enthusiastic" (Gregorc, 1982, p. 31) was also demonstrated in the interview in her profuse verbalizations, enthusiastic responses, easy laughter, and full participation in the topic of discussion, bringing in examples from other areas of her life that she obviously enjoyed sharing. She related with delight her attempt to conform to the task-oriented learning style of a fellow student who had requested her cooperation in delineating the topic of their joint project:

And so when I came that day, I had these round paper things on my glasses like blinders to narrow my vision, gagged myself, put a scarf over my ears and a sign on my chest, 'Have faith, I can stay on task!' (p. 21)

Indeed, sometimes it was difficult "getting a word in edge-wise," and as an interviewer I was certainly not successful in leading her sequentially through the research questions.

### ***Dominant Concrete Random***

The Dominant Concrete Random teacher was a 42-year-old male who was in his sixteenth year of teaching, having taught at every grade level from grades 3 to 12, and every subject area except French. Most of his teaching career was spent in lower socio-economic elementary schools, with a recent move to a special needs junior-senior high school in Lethbridge. For the past eight years he has also served in the capacity of Administrative Assistant and later, Assistant Principal. Currently, he is also the counsellor in addition to being the Assistant Principal. The CR teacher has a B.Ed. from the University of Lethbridge in 1974 and a M.Ed. also from that institution in 1989.

The CR teacher's responses to Gregorc's Style Delineator (1982) were relatively equal, and exactly paralleling the final delineation of the relative importance of each learning style. Concrete Random was the highest score, although only two points above his adapted Concrete Sequential which tied with his flexed Abstract Random style. His coping Abstract Sequential style finished last, a full six points below.

Answers to Butler's (1984) questions were again not highly revealing regarding relative style dominance, while the interview was again more definitive.

## **First Interview**

### **Natural Style: Concrete Random.**

Again, regarding the progress of the interview, it did not proceed in linear, orderly fashion, although as an Abstract Sequential, I frequently attempted to have it do so. Several times I tried to have the CR subject explain himself in terms of Gregorc's descriptions, but it was often difficult for him to put it into other words. My understanding of Gregorc's descriptions were sometimes different from his, and I had to use my personal knowledge of the subject to encourage him to talk in the vein which I felt was pertinent. Perhaps this was due to the Abstract Sequential nature of the task, which we found to be a style with which he "coped."

The CR teacher typically began at the very end of the "Thinking Processes" section, pointing out as "the interesting thing" (p. 1) the fact that the "Concrete Random makes the transition from theory to fact and can leave the CR unable to explain his intervening steps" (Gregorc, 1982, p. 35). He went on to elaborate on how others often have difficulty keeping up with his solution-finding during brainstorming sessions. He explained how he becomes frustrated that they cannot understand what he considers "common sense" (p. 1).

Regarding Gregorc's description of the CR's thinking process as "quick and impulsive, discriminating and critical, and highly capable in matters that deal with the concrete world" (1982, p. 35), the CR teacher stated that he is confident in situations when, as an administrator or counsellor, he is presented with a problem-solving situation. He seldom has to do research and ask the parties to "come back tomorrow" for his decision.

He feels good about being able to help people "on the spot," providing them with a variety of solutions from which they might choose (p. 2).

The CR teacher stated that his "whole lifestyle is based on intuition and instinct" (p. 2), which are the main tenets of the Concrete Random's thinking processes, according to Gregorc (1982, p. 35). He felt that he had always had this uncanny ability--to feel and sense things almost before they happened. He finds this particularly useful in assisting students and colleagues to problem-solve--he "can feel where they are coming from...and then base [his] decision on their need...if they need reassurance ...or direction...[he] is able to do [whatever is required]" (p. 3).

To Gregorc's statement that the CR has "an adventurous, optimistic, and inspirational mind...easily moves into areas that defy human logic and that supercede convention" (1982, p. 35), I prompted him to talk about the many projects that he is always "dreaming up" for his school. He agreed readily that he is "always thinking" about projects that might be "a little bit more creative" (p. 4) in the area of fund raising for the school, keeping in mind the logistics that might preclude actually attempting any of them. He often finds himself being approached by other staff members for his input regarding planning and organization of events, and he is frequently asked to sit on committees (p. 4).

In actual teaching activities, the CR teacher has long recognized individual learning differences among students and has made a practice of individualizing learning programs for students. He has devised "hands-on" type programs for slower learners and a project-based program for the more gifted students. In the latter, there would be the attempt to integrate most of the school subjects (p. 7).

In response to Gregorc's suggestion that the CR:

...seeks and searches for unity in just about everything...usually busy finding the critical or missing link, the coherent principles, or the modus operandi that makes something fit into and function in the everyday world (1982, p. 35) ,

the CR teacher felt that in his role of administrator, an important part of that position, and one he particularly enjoyed, was being in a position to see the school as a whole and "see where the pieces fit in" (p. 4). He likes to have the feeling of "control, organization, or security" (p. 5) that comes with knowing what is happening with the students, teachers, and the whole school. He was not able to state any causal connection with this need and his striving for administrative positions (p. 5).

**Flexed Style: Abstract Random.**

In keeping with Gregorc's description of the Abstract Random style, "established rapport with individuals, tuning in to their inner patterns and moods (1982, p. 29), the CR teacher felt that an important part of his role as teacher, administrator, and counsellor is his ability to form rapport easily, especially with students. Even from his student teaching experience, it was "just sort of a natural thing" for him, something that he has always had--"maybe because I'm a kid at heart too" (p. 9). He was unable to say whether or how he actually worked on relationships with adults, relationships in which he has become aware that he can be perceived as threatening, for some unknown reason to him. His approach to relationships with adults is to consider their individual differences in feelings and emotions. At this point, he resisted my effort to categorize this behaviour as Concrete Random in the sense that it was multi-solutional (p. 10). He felt it was more "random" than "concrete," and upon reflection, I can now see that it should be labelled "Abstract Random" in that it would illustrate an AR's ability to "establish rapport with individuals and tune into their inner patterns, moods, and motivations" (Gregorc, 1982, p. 29).

To illustrate that his "thinking processes are anchored in feelings. Judgements...made in relation to prior emotional experiences" (Gregorc, 1982, p. 29), the CR teacher cited an incident last term in which the question was whether to pass or fail a student. His reasoning, different from the 11 other teachers making the decision, was based on the facts of the student's poor marks as well as the emotion of the situation. He was sensitive to the student's emotional needs of feeling bad about having to repeat a grade.

His views seemed to have been supported by the fact that the student was this year considering dropping out of school because the experience of repeating the grade was "not doing a thing for him" (pp 10-11). He sees "all cases [as being] unique unto themselves" and really "feels" for the kids --it is not just "the paper facts" that are important to him in this kind of decision-making (p. 11).

**Adapted Style: *Concrete Sequential***

In regard to the Concrete Sequential style, the CR teacher felt that this was his adapted style because he has had to meet the demands placed upon him in school and at home where he was surrounded by family members of this style. He expressed his view that most teachers, although it may not be their preferred style, teach in a Concrete Sequential manner and therefore, most children are Concrete Sequential, "because their teachers and parents want them to be that way" (pp 5-6). He admitted that this type of training does not necessarily prepare students for university experiences, but that the curriculum itself is set up in a sequential way through the public school system. He feels that he teaches in a Concrete Sequential manner, particularly previously when he taught at the elementary level. He attributes this to a difficulty in breaking "the mold" of having been taught in a Concrete Sequential way, the set-up of the curriculum as it is set out by Alberta Education, and also having had more success in using it. When he has attempted more abstract methods, "the kids seem to be lost" and he has therefore reverted to his original approach (p. 6).

The CR teacher uses "a lot of media" in his classroom, as well as physical demonstrations to assist concretely in the students' learning process. Similarly, he follows "natural structure and prescribed formulae" (Gregorc, 1982, p. 19) in his lesson plans and classroom management. He follows a format learned in university in which order must first be obtained at the beginning of the class, there is a review of the previous day's lesson, introduction of the new concept, followed by skill development, and ending with closure (pp. 7-8). In addition to using a formula for lesson-planning, in his earlier teaching of elementary mathematics, the CR teacher would spend countless hours developing worksheets according to a systematic method so that each concept would be covered in every combination possible (p. 8). He applies this same approach to working on the school timetable. He is able to see the whole picture, making sure that all teachers "would be pleased with their timetable" (p. 8). The "exactitude" of the CS learning style (Gregorc, 1982, p. 19) is demonstrated by his ability to detect flaws and variances and to not let them go. "It would bother me for a long time...I'll work on it until I get it right" (p. 8).



**Coping Style: Abstract Sequential.**

The CR teacher began by stating that he needs to "force" himself to think in terms of Abstract Sequential (p. 11). He found this same type of feeling when taking Arts and Science courses at the university, which to him were at times too intellectual--"too many thoughts and ideas" (p. 12). Education courses, on the other hand, capitalizing on his "ability to have insight in dealing with people" were found to be "more common sense, more practical, [with] the answers...readily available to me" (p. 12).

When confronted with persons who exhibit the Abstract Sequential thinking processes which are "often fluid, active, and quick...appear[ing] to be flighty and in a constant state of unorganized flux" (Gregorc, 1982, p. 23), he waits patiently for them to finish, and "when it's my turn... slow them down either by asking them questions or coming up with my own point of view" (p. 12). His personal opinion of such persons is that "they're flighty." Furthermore, he states that he doesn't care to try to follow their thought patterns, because to him "they're not going anywhere with it and I don't want to waste my time" (p. 12).

The types of professors he found the most stimulating and enjoyable were those with a Concrete Random type of presentation, those who "would allow you to think and interpret" (p. 13), while those of Concrete Sequential presentation were the most easy to follow, although not necessarily enjoyable because of their predictability and lack of challenge. Abstract Sequential, in contrast, was "not predictable enough" (p. 13). He explained his obtaining of his Masters degree to be a "pleasant experience" because it made him into "a more knowledgeable person," but he saw it as more a means to an end--part of his administrative preparation--rather than an example of Gregorc's "eternal student" description of the Abstract Sequential (1982, p. 24).

## **Second Interview**

The interview progressed in characteristic, creative Concrete Random style, with the CR teacher frequently responding that he either had more than one answer, or more than one part to his answer. His "quick and impulsive" (Gregorc, 1982, p. 35) thinking processes were demonstrated time and again by his immediate responses and ability to explain himself clearly. In addition, his "Approach to Life" in the form of a "realist/idealist ...view of his world...[being] both telescopic and universal" (Gregorc, 1982, p. 36) was displayed in his frequent references to individual differences and the need for teachers to pay attention to them in students. He stated his:

personal belief that all people have their own strengths and weaknesses and if we want to be successful in life, we should be cognizant of this fact and ...apply the principles...really live it (p. 20).

Personally speaking, he felt that the learning style analysis had:

affirmed [his] belief that as a teacher [he] must be prepared to deal with individual differences amongst the students and to make sure [his] lessons will facilitate the learning of all the students in the classroom (p. 15).

However, he did not feel that the analysis process had actually changed his teaching style in any way, but that his teaching style had remained constant from his earliest years of teaching, having had its seeds in early awarenesses of fellow students having problems with learning. As a teacher, he stated that he organizes his teaching strategies, not only accommodating the various learning styles, but preparing himself to also set up individualized programs for needy students (p. 15).

I feel that this is a demonstration of the Concrete Random's:

thinking processes [that] emphasize intuition and instinct [with] the instinctual processes...used to register the concrete world as a starting point...his primary ability...used to see into and beyond objects in the concrete world to try to identify their nature and possibilities (Gregorc, 1982, p. 35).

He also noted having had academic struggles in his early years and having felt like the "black sheep" of his family because of a different learning style from the majority of his brothers and sisters. The CR teacher seems to have utilized these early experiences and awarenesses in the same way that Gregorc describes the "Thinking Processes" of the Concrete Random: "The Concrete Random feels that every person, place, thing, and experience has messages locked inside and he is duty-bound to use his intuition as a key" (1982, p. 35). Although not being able to actually label differences in attitude and values as "learning style" per se, at an early age, he appreciated the differences--"I just had this basic understanding that people learn in different ways" (p. 16).

The "Validation Process" of the CR which, according to Gregorc, is "achieved through practical demonstration and personal proof of application" (1982, p. 36), seems to be applicable here in that the CR teacher felt that the learning style analysis "affirmed" his own beliefs in the validity of differences in learning styles among individuals. He even explained how he had gained new awareness of his family interactions on the basis of a learning style explanation.

He described as an "eye-opener" the realization that his longstanding difficulty in communicating with other family members was due to differences in learning styles, and that all his life he has attempted to adapt to their Concrete Sequential styles (p. 17). He acknowledged a greater awareness of his "inner self" and an awareness of why he does the things he does (p. 18) but true to Gregorc's suggestion that the CR "strives to understand the 'why' of his world rather than the 'how'" (1982, p. 36), he was somewhat reluctant to say definitely that the learning style analysis had been the source of his awareness--"I think I would attribute it to that" (p. 17). As for its effect on his self-esteem, however, he did not express much enthusiasm, although he responded affirmatively: "I guess any psychologist would agree...that if you understand yourself, one of the benefits is that you increase your own level of self-esteem" (p. 18). This almost casual attitude might reflect the CR characteristic to be "very much his own person" (Gregorc, 1982, p. 36).

According to Gregorc:

the Concrete Random's focus of attention, particularly in a learning or working environment, is on processes, methods, applications, and approaches to dealing with persons, places, and things" (1982, p. 36).

This would seem to be exemplified in the CR teacher's description of how he uses learning style theory to deal with students as an administrator and also as a counsellor. He explained how his strategy of giving students choices is usually indicative of their learning styles. Also by "just talking" to students, he can "generally...determine how they think and how they could be best aided" (p. 18).

In the classroom, he has employed grouping of students according to academic ability and/or learning style, as well as station work and a multi-media approach, in an effort to "address the needs of the students and the way they learn" (p. 19).

In regard to the effect on relationships with colleagues, learning style theorizing has become a topic of conversation among the staff in casual and formal settings, as well as a means of "dealing with colleagues as an evaluator or supervisor" (p. 20). Characteristically, however, the CR teacher saw a learning styles explanation and approach as just one of many approaches to problems that might arise in his dealings with both colleagues and students, and education as a whole (p. 21).

### ***Discussion***

As an Abstract Sequential researcher, I find interesting the comparisons that can be made among the various dominant learning styles in their approach to teaching situations, themselves, and to life itself. Distinct differences could be delineated in their attitudes toward, and handling of, virtually the same situations that face the teacher on a day-to-day basis. For example, in the case of a student exhibiting what might be interpreted as problem behaviour of some sort, the CS teacher has described how he would not consider the context of the individual student's problem, but only deal with the behaviour as it relates to the student's behaviour in his classroom. Furthermore, the CS teacher would present the student with the choice of five strategies that have proven themselves to be effective. He would be quite satisfied to choose one strategy, move to another if unsuccessful, but to end the incident by choosing one and following it to its logical conclusion.

The AR teacher, in contrast, would look at the student as part of a larger whole, and problem-solve on the basis of what would be beneficial for all parties involved, as part of the whole interaction. Dealing with the situation at hand would not see an end to its resolution, but she would carry with her for some time, concerns about the decision, how it affected all parties, etc.

The CR teacher would be able to "tune in" very rapidly to the nature of the problem and almost instantly arrive at a multitude of solutions from which the student might choose a solution. These would not necessarily be part of a standard repertoire of solutions, as in the case of the CS teacher, but would be achieved according to the dynamics of the particular situation.

The AS teacher would only become involved in dealing with the student's need if approached directly and her help requested. Her approach would include listening to the nature of the student's problem, reference to various sources, such as social service agencies, human relations approaches, her own counselling experience, and the like. She would typically feel some feeling of unsettledness regarding whether the situation had been handled efficiently and correctly in terms of seeing all the sides, and she would usually initiate follow-up to determine whether the problem had been solved or whether the advice had been satisfactory. Sometimes later reflection would reveal additional solutions that would be shared also at that time.

Similarly, in regard to the very process of trying to analyze each subject's learning style, the Abstract Sequential was the one who initiated the project, the Concrete Sequential followed the sequence of Gregorc's descriptions, complete with examples for each feature, the Abstract Random almost defied categorization, and the Concrete Random approached the process in his own way, starting at the end.

The teacher of each dominant learning style also seemed to have a different attitude toward the usefulness and applicability of the research. As the researcher myself, of course, I have found the categorization of the subjects and their fit with Gregorc's descriptions to be simply fascinating and I have made "learning style" the subject of many of my conversations, both personal and professional. For me, it has literally become a language with which to communicate, has profoundly affected my level of self-understanding and self-acceptance, and my level of tolerance and acceptance of others.



In contrast, the CS teacher simply found it an interesting academic exercise that did not affect his teaching style, feelings about himself, or his relationships with others in any appreciable way. The CR teacher had found some applicability for the process in his personal and professional lives, employing a learning styles approach in his dealings with problematic situations in the classroom, and in counselling and administrative interactions with students and colleagues, but only as one part of his response capabilities. The AR teacher, on the other hand, seemed to absorb the process and its enlightenment into her total being--it became connected to other learning that formed a kind of theme or concept assimilated during the semester. She expected that as a part of her total experience, understanding of learning style would affect all her future interactions.

Interestingly, however, the analysis process itself was found to be at least somewhat positive for each subject. Each teacher admitted to having gained in the aspect of self-affirmation or self-confirmation, which had something of a positive effect on self-esteem, although the realization of such an effect was felt most by the AR and AS teachers. For the Concrete teachers, both male, the learning style analysis seemed to be regarded as a finite entity of some sort that could be utilized, viewed, or "left on the shelf," according to their determination. In contrast, the Abstract teachers, both female, seemed to experience the analysis process with their whole being, absorbing it almost as a kind of sensation and allowing it to flow through them and throughout their lives.

Among other patterns of note was the fact that for all the subjects, the Abstract Random learning style was either the dominant or flexed style, which I found intriguing in view of the fact that AR would be a polar opposite to CS, for example. It would seem that the configuration of learning styles among the possible "relative purposes" (Butler, 1984) can take any form, however individual, with up to 360 possible combinations (information I obtained from a math professor), precluding the necessity for "everyone in the world to be slotted into one of only four categories," an expressed concern of the AR teacher! In addition, for all except the Dominant Abstract Sequential, the Abstract Sequential learning style was utilized least easily and least frequently, that is, as either coping or resisting styles, which is particularly interesting in an educational study. That is, for all the teacher subjects except one, "booklearning" was found to be a relative weakness and one might therefore begin to question whether traditional types of educational practices are the most effective means of teaching.

In regard to the actual carrying out of the research itself, I found that during the initial process of determining dominant, flexed, adapted, coping, resisting, or masked styles, Gregorc's Style Delineator (1982) was only minimally efficient. Frequently, the numbers obtained in each learning style, which would logically indicate the relative strength of each channel, did not correspond with the final configuration which was determined from the interviews. The second means of delineation that was utilized were Butler's questions (1984), and these were found to be more helpful than the Delineator, but again, the interview (in which corresponding educational experiences were matched to Gregorc's descriptions [1982]) was found to be most definitive.

### ***Conclusion***

To conclude, I found that the learning style analysis process was both interesting and useful for each participant. Problematic in terms of extensive use of the process as it was carried out in this study, however, would be the length of time required as well as the unwieldiness of the one-to-one interview format. Nevertheless, the process might be one that could be utilized effectively in a workshop, in-service, or formal course presentation even using the same methodology. That is, after an introductory lecture regarding learning styles and their possible uses as relative strengths, Gregorc's Style Delineator (1982) could be administered to a large group, followed by a small group discussion of Butler's (1984) questions to try to refine individual decisions regarding relative strengths of learning styles. Reading of Gregorc's long descriptions of the Style Characteristics of each learning style should then be accompanied by each subject doing autobiographical writings of educational incidents or relationships that would pertain to the various characteristics. These could be shared in classroom presentations and discussion.

Ideally, future research would address itself to a more streamlined, but accurate, process of determining relative stylistic strengths for both students and teachers. However, I believe that learning style analysis is of such extreme importance that it should not be treated frivolously nor superficially and that any attempt at a shortened version of analysis must stress self-understanding as well as its applicability to real-life situations.

One major shortcoming of learning style analysis might be further entrenchment of inflexibility, which is characteristic of certain styles. That is, as noted earlier, researchers in learning styles advocate adapting teaching style to meet learners' needs and several excellent articles have been written recently on the subject of the implications of learning style for curriculum and instruction in various educational settings (Ast, 1988; Sweeney, 1988; Soroko, 1988). However, since only certain styles excel at such accommodating behavior, I wonder how realistic are such recommendations. I suspect that the most reasonable answer to the problem might be to try to match the learning styles of teachers with students. I know that this already occurs informally by both administrators and parents in placing students with certain teachers, although probably without awareness of a learning style rationale and without using these labels. When those inevitable "personality clashes" between teacher and student occur, I would hope that understanding of learning styles as value neutral would foster greater acceptance of solutions such as changing student placements, without teachers' self-esteem suffering. While educators might complain that funding is not available to match the learning styles of teachers with the learning styles of students, I submit that "an ounce of prevention" in this way might avert all manner of discipline problems, "learning disabilities," school phobias, and school failures. If a pilot project of some sort is desired, perhaps a specific population, such as a special needs school might be used as a site for experimentation on a small scale. While teachers of certain learning styles might not find it "natural" to provide varied learning experiences to meet their students' stylistic needs, there are undoubtedly students who would thrive under their teaching style.

In summation, I contend that greater awareness of learning style theory and application can only serve to increase the degree of self-actualization for both teachers and students, and ultimately the productive capabilities and enhancement of life experiences for all. I would echo Butler's (1986, p. 3) call for increased understanding and appreciation of "diversity in mental gifts, learning preferences, and personal expression"--in both students and teachers.

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**APPENDIX A:**  
*Butler's Questions*

**Abstract Sequential Channel**

- \*Do you love argumentive debates?
- \*Do you prefer to do a library report than invent a product?
- \*Do you scan the bestseller list with anticipation?
- \*Do you regret having too little time to read?
- \*Do you treat yourself to a book whenever you can justify the time – bedtime, traveling, sicktime?
- \*Do you find that you never pass a bookstore without stopping and purchasing?
- \*Do you head to your papers, desk, library, or latest journal as a matter of course?
- \*Do you love the world of ideas, research, analysis, and evaluation?
- \*Do you gravitate toward documentaries?
- \*Do you consider yourself a thinker? researcher? idea specialist?
- \*Are you driven by the need to use your intellectual powers in search for knowledge and truth, and to refine our understanding of the rational, logical world?
- \*Do others see you as intellectual, analytical, evaluative, critical?



### Concrete Sequential Channel

- \*Are you naturally ordered and organized in a conventionally recognized way?
- \*Do you judge value according to practicality?
- \*Are you more concerned with getting the job done than with how you or others feel about the job?
- \*Is time and efficiency of primary importance to you?
- \*Do you feel you have met the challenge of the day when you have something done to show for your time and energy?
- \*Are you task oriented?
- \*Do you seek directions because you want to do the work correctly?
- \*Do you relax by puttering, straightening out, fixing this and that?
- \*Would you rather be doing something physically active or hands-on?
- \*Do you take things as they are rather than considering alternative ways of evaluating?
- \*Do people praise your reliability, steadiness, dependability, efficiency, exactness, accuracy, thoroughness?

### Abstract Random Channel

- \*Are you driven by your emotions? feelings?
- \*Are relationships more important to you than accomplishments?
- \*Do your moments of greatest fulfillment occur through relationships, self-understanding, self-healing, emotional release?
- \*Do you find your emotions can easily control you?
- \*Do you avoid competition?

### Concrete Random Channel

- \*Are you driven by the need to think, envision, and do what has not been done before?
- \*Are your natural responses unusual in light of other's responses?
- \*Do others find your points of view unusual?
- \*Do you gravitate to the unknown, the new experience, the unusual approach, the possibilities?
- \*Is frequent change appealing to you?
- \*Given circumstances that are important to you, do you usually need to find several equally acceptable ways of seeing that situation?
- \*Do you find yourself "seeing the picture" differently from most of your colleagues?

**APPENDIX B:**  
*Style Delineators (Matrix Forms)*

**DOMINANT ABSTRACT SEQUENTIAL**

**WORD MATRIX**

	1	2	3	4	5	a.	b.	c.	d.	
a.	1 objective	4 perfectionist	3 solid	1 practical	4 careful with detail	13				
b.	2 evaluative	3 research	2 quality	3 rational	1 ideas		11			
c.	4 sensitive	2 colorful	1 non judgmental	2 lively	3 aware			12		
d.	3 intuitive	1 risk-taker	4 insightful	4 perceptive	2 creative				14	
	6	7	8	9	10	a.	b.	c.	d.	
a.	3 thorough	2 realistic	4 ordered	4 persistent	2 product oriented	15				
b.	4 logical	3 referential	3 proof	3 analytical	3 judge		16			
c.	2 spontaneous	4 empathy	2 attuned	2 aesthetic	4 person oriented			14		
d.	1 trouble shooter	1 innovative	1 multi-solutions	1 experimenting	1 practical dreamer				5	
						Total of above	28	27	26	19
							CS	AS	AR	CR

*Adapted* *Natural* *Fixed* *Coping*

**DOMINANT CONCRETE SEQUENTIAL**

**WORD MATRIX**

	1	2	3	4	5	a.	b.	c.	d.
a.	3 objective	2 perfectionist	2 solid	1 practical	2 careful with detail	10			
b.	2 evaluative	3 research	1 quality	2 rational	3 ideas		11		
c.	1 sensitive	1 colorful	4 non judgmental	3 lively	1 aware			10	
d.	4 intuitive	4 risk-taker	3 insightful	4 perceptive	4 creative				19
	6	7	8	9	10				
a.	2 thorough	1 realistic	1 ordered	2 persistent	1 product oriented	7			
b.	1 logical	4 referential	3 proof	1 analytical	3 judge		12		
c.	3 spontaneous	2 empathy	4 attuned	4 aesthetic	2 person oriented			15	
d.	4 trouble shooter	3 innovative	2 multi-solutions	3 experimenting	4 practical dreamer				16
	Total of above					17	23	25	35
						CS	AS	AR	CR

*Natural*  
*Resisting*  
*Fixed*  
*Coping*

DOMINANT ABSTRACT RANDOM

WORD MATRIX

	1	2	3	4	5	a.	b.	c.	d.
a.	1 objective	1 perfectionist	1 solid	2 practical	1 careful with detail	6			
b.	2 evaluative	2 research	2 quality	1 rational	3 ideas		10		
c.	3 sensitive	4 colorful	3 non judgmental	3 lively	2 aware			15	
d.	4 intuitive	3 risk-taker	4 insightful	4 perceptive	4 creative				19

	6	7	8	9	10	a.	b.	c.	d.
a.	1 thorough	1 realistic	1 ordered	1 persistent	1 product oriented	5			
b.	3 logical	2 referential	2 proof	3 analytical	2 judge		12		
c.	4 spontaneous	3 empathy	3 attuned	4 aesthetic	4 person oriented			18	
d.	2 trouble shooter	4 innovative	4 multi-solutions	2 experimenting	3 practical dreamer				15

Total of above

11	22	33	34
CS	AS	AR	CR

*Adapted*  
*Resisting*  
*Natural*  
*Fixed*

DOMINANT CONCRETE RANDOM

WORD MATRIX

	1	2	3	4	5	a.	b.	c.	d.
a.	1 objective	2 perfectionist	3 solid	3 practical	1 careful with detail	12			
b.	2 evaluative	1 research	2 quality	2 rational	3 ideas		10		
c.	4 sensitive	3 colorful	1 non judgmental	1 lively	4 aware			13	
d.	3 intuitive	2 risk-taker	4 insightful	4 perceptive	2 creative				15

	6	7	8	9	10	a.	b.	c.	d.
a.	2 thorough	3 realistic	2 ordered	4 persistent	3 product oriented	14			
b.	3 logical	1 referential	1 proof	3 analytical	2 judge		10		
c.	1 spontaneous	4 empathy	3 attuned	1 aesthetic	4 person oriented			13	
d.	4 trouble shooter	2 innovative	4 multi-solutions	2 experimenting	1 practical dreamer				13

Total of above  
 26 CS    20 AS    26 AR    28 CR  
*Adapted*    *Coping*    *Flexed*    *Natural*

**APPENDIX C:***Gregorc's "Style Characteristics"*

## STYLE CHARACTERISTICS OF THE DOMINANT CONCRETE SEQUENTIAL INDIVIDUAL

**WORLD OF REALITY—CONCRETE**

The "real" world for the dominant Concrete Sequential is the concrete, physical, objective world. "What is" is that which appears to and is detectable through his extraordinary physical sensory abilities of sight, sound, touch, taste, and smell.

Reality to the Concrete Sequential contains solid people, actual places, and real things. He receives data from and produces in the concrete world as well. This world is static, objective, and predictable. The CS view of reality is symbolized in the statement, "Man must not only see everything through his own eyes, but will always be unable to accept what he cannot so examine." (Marc Edmund Jones)

**ORDERING ABILITY—SEQUENTIAL**

The dominant Concrete Sequential views and approaches experiences in his world of reality in an ordered, sequential, rectilinear, and one-dimensional manner. He expresses concerns about "bottom lines," "crossing lines," and "deadlines." Events are conceived as being joined in a successive and continuous manner like links in a chain. Consequently, he thinks by using a "train of thought" which has a clear beginning and a clear end.

**View of Time**

The dominant Concrete Sequential views time as consisting of discrete units which are divided into periods of an immediate past, the present, and an immediate future. Events that will occur in the future are, to the CS, predicted and anticipated as "natural" results and outgrowths of past and present conditions and activities. He is a firm believer that the key to the

future is in the hands of present behavior and actions.

**Thinking Processes**

The dominant Concrete Sequential's thinking processes are instinctive, methodical, and deliberate. Having finely tuned powers of the physical senses, he registers objects in the concrete world extraordinarily well. He discriminates between and among sounds, tastes, and smells extremely effectively. Many also exhibit "photographic" memory. The outer orientation of the CS often results in his attributing the cause of subjective thoughts, intuitive flashes, and feelings to environmental stimuli. In these instances, he would look for external causes of divorce, unhappiness, joy, etc.

The Concrete Sequential is naturally structured and uses prescribed formulae in dealing with the world. He can exhibit a healthy sense of criticalness which may border on the ultraconservative. When life experiences appear to be chaotic or fortuitous, he has been known to coerce ideas, people, places, or things into a logic pattern suitable to him.

Consistently striving for perfection, the Concrete Sequential can work with the exactitude of a machine and detect the most minute detail, flaw, and variance with uncanny precision. The dominant CS is able to link successively-connected parts and divide facts and figures into categories and subcategories. His ability to organize logically produces a linear organizational capacity unsurpassed by any other style.

The Concrete Sequential is usually not interested in abstract theories and will interpret words and labels "literally."


 CS

### Validation Processes

Validity, proof, and clear-cut discernment of anything is decided by and through the physical senses. Phrases such as "seeing is believing," "I heard it myself," and "you can taste the difference," typify the dominant Concrete Sequential's approach to personal determination of truth. The CS individual has often been called the classic "Doubting Thomas."

Validation is also made via authorized and credentialed experts who have had accredited instruction and training PLUS professional experience and background. Many Concrete Sequentials place great faith in specialists who explain phenomena which are not personally physically verifiable.

### Focus of Attention

The dominant Concrete Sequential rivets his attention to the objective, concrete world and material reality. With his feet planted firmly on the ground, he uses his strong vital instincts and values objects and experiences which stimulate those instincts. He excels in making, gathering, appropriating, controlling, naming, labeling, and owning objects of value and beauty in his environment. Such objects can be persons, places, and things.

### Creativity

The dominant Concrete Sequential is not creative in terms of invention or originality. He is, however, a creative producer in two ways: he can produce a concrete product or a prototype from someone else's idea, and he can duplicate a product already in existence. His products are often technologically based.

His desire for perfection aids him in re-creating and refining a product, activity, or procedure to make it more efficient, effective, and economical than the original. Metaphorically speaking, the Concrete Sequential has the ability to produce a beautiful diamond from a rough, unpolished stone.

CS creativity is also evident in his organizational abilities which can be used to align activities for maximum effect.

### Approach to Change

The Concrete Sequential can be adverse to change. Being naturally sequential and structured in his thinking, he can find it extremely difficult to break a habit or an existing pattern of operation. He can also find difficulty in opposing tradition.

If a present pattern is working and "paying off," he may be suspect of something "new" which is speculative, untried, experimental, and not yet "guaranteed" to work. This reluctance to change may be viewed as weakness or stubbornness. However, it may well be an outward sign of stability until the new idea or procedure proves itself to his satisfaction.

The CS-oriented individual is generally not easily adaptable to new conditions or environments. This means that change comes in slow, deliberate, incremental steps. He needs to be able to predict events and, if possible, play a role in their development and outcome.

### Approach to Life

The dominant Concrete Sequential is a realist who is practical and predictable. He is the "Rock of Gibraltar" and a stabilizing, conservative influence in crisis situations. Cool, calm and collected, patient and hardworking, the CS approaches his life's goals and objectives with careful, precise, steady pacing. He is a responsible and dependable individual who will firmly abide by the laws, mores, ethics, and traditions inherent in his environment. His loyalty, tenacity, endurance, and strength are evident when the "going gets tough."

Since he is concrete in his view and perfection-oriented in his actions, the dominant Concrete Sequential expects to receive something tangible for his time, effort, hard work and resulting product. He therefore anticipates a reward (grades, money) or recognition (status, promotion) or a compliment, "thank you" or some type of verbal appreciation for a job that he considers done well.

### Environmental Preference

The Concrete Sequential prefers and will seek





a quiet, ordered, predictable and stable environment. He wants objects in his environment to be functionally-dependable and, above all, practical. An unsanitary, unordered environment can virtually "drive him up the wall."

The Concrete Sequential wants and needs to know what is expected of him and have specific directions before he will proceed to begin any assigned task. This need does not rise from an ego deficiency, necessarily, but more often from his desire to do a job correctly and/or learn by imitating the behavior of an expert.

With a low tolerance for distraction, the Concrete Sequential functions best when the environment is relatively free of peripheral sound and activity. In any work environment, the CS individual will expect his fellow employees to be dedicated, loyal, task-oriented and productive. The qualitative and quantitative standards he sets for himself and others are often extremely high.

#### Use of Language

Since the Concrete Sequential deals with physical objects, he uses words as literal labels and names to describe what he physically and materially experiences as reality in the objective world. Practical and conservative, the CS uses words that are neat, clean, concise, and to the point. He prides himself on being succinct, logical, and exact. He shuns "flowery language," complex sentences, and "two-dollar words" which, according to him, confuse both the issue and the listener. He believes that academic, poetic, and esoteric words cloud the ability of people to see that the answer is "as clear as the nose on your face."

Usually cautious and diplomatic in expressing himself, the Concrete Sequential can also be quite arbitrary and dictatorial in expressing his opinions and in giving directions to others. As a disciplinarian, he can be a "hard nosed" individual.

#### Primary Evaluative Word

The word "good" is used by the Concrete Sequential to indicate a top-level performance.

#### Major Intolerances

In general, the dominant Concrete Sequential dislikes:

- physical and environmental conditions which are not conventionally correct,
- individuals who are flagrant violators of norms,
- broken promises and "surprises,"
- people who procrastinate,
- discussions which appear to be "academic" rather than down-to-earth, and
- individuals who are "too emotional" in their decisionmaking.

#### Negative Characteristics

Negative CS behavior may manifest itself as follows:

- inflexibility and rigidity,
- excessive criticism and skepticism even though they themselves dislike being criticized,
- viewing people as "objects" to be controlled and owned,
- addiction to routine and order,
- susceptibility to autocratic and dogmatic belief systems,
- entrenched materialism coupled with unwillingness to give credence to an invisible world,
- lack of sympathy and compassion,
- an unforgiving, grudge-holding temperament accompanied by an explosive anger and
- a self-righteous attitude.

#### Observable Traits

In general, the following traits may be observed:

Concrete Sequential individuals are habitual. Beds are always made upon rising. Immediately after dinner, the table is cleared and the dishes are washed, dried, and put back on the shelves. They drive along the same route to work every morning and their day is time and task-oriented. Although these routines may appear boorish to others, the CS is quite convinced and satisfied that his ways will work, have worked, and will work for others if only they would "see the light" and do things the right way.

Concrete Sequentials usually see things in


 CS
 

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terms of being either black or white. This trait is often irritating to others who are unaware that this attitude is a sign of the CS's discriminating ability. Anything in between the two extremes is generally too fuzzy or amorphous for the Concrete Sequential to base a value decision upon. Consequently he will usually answer a question or offer an opinion of "yes/no, right/wrong, tastes good/tastes bad, or sounds good/sounds bad."

Concrete Sequentials choose their wardrobe with particular care and economy. They are drawn to three-piece business suits and monochromatic outfits. A CS would not think of wearing mismatched plaids, flashy colors, or being seen in unconventional or untraditional clothing. They can be fussy when it comes to neatness, wrinkle-free suits, the correct hairdo, perfect make-up, and spit-shined shoes.

Concrete Sequentials seldom lose anything. They know where everything has been put and is located. If you lose or misplace something, ask them and they will tell you immediately where it is or where they have put it.

If you invite a Concrete Sequential to a meeting or dinner party, you can be sure that he will attend and arrive on time or have a proper excuse. Meeting obligations and time commitments are as sacred to the CS as his bank deposits and up-to-date checkbook.

The presents that a Concrete Sequential gives to others will be practical. They like to give and receive cash or gift certificates, potted plants, toasters, lawnmowers, etc. Gifts such as short-lived cut flowers, a book of poems, or satin sheets are considered frivolous.

Concrete Sequentials mark special occasions such as birthdays, anniversaries and holidays by sending cards and gifts. They also send get-well cards. They do not, as a rule, send surprise gifts or "just-thinking-of-you" cards on non-occasions.

A Concrete Sequential parent is a loving, but true disciplinarian. Homework is to be taken seriously and done each night (preferably before dinner and definitely before television watching). And, the teacher is always right! Household duties are delegated with a roster and time schedule taped to the refrigerator door. Thank you letters for gifts from grandparents and relatives must be written and in the mail within twenty-four hours after receipt. And, the CS will demand that there will be no public displays of affection between their children and their dates within 500 feet of the house.

Concrete Sequentials rarely give compliments. They expect a good performance, a job well done, a neat appearance in others, and a smooth-running environment. Approval is generally silent and they operate under the maximum of "No news is good news." The CS is not reticent, however, to clearly show disapproval.

A desk or office belonging to a Concrete Sequential will not be messy or disorganized. Pencils are sharpened, file trays empty, desk drawers neatly divided with metal inserts, and a memo pad sits squarely by the telephone. Office furniture is streamlined, comfortable, and efficient. If there are any plants in the office they will most likely be plastic because the CS is not known for his "green thumb."

A Concrete Sequential guest in your home can often smell fish in the air a day after you had it for dinner, a kitty litter box in the basement, and tell you the name of the perfume or after-share you are wearing. Many CS's can taste the bay leaf in your stew, the dash of Tabasco in his Bloody Mary, and name the year of the wine served with dinner.

## STYLE CHARACTERISTICS OF THE DOMINANT ABSTRACT SEQUENTIAL INDIVIDUAL

### WORLD OF REALITY—ABSTRACT

The "real" world for the dominant Abstract Sequential is the abstract nonphysical world of thoughts and mental constructions. Reality consists of words and signs which correspond to and re-present concrete reality. It also contains concepts (broad mental pictures) such as justice and peace which generalize beyond single concrete objects and form a scaffolding for a wide world view.

The Abstract Sequential lives in a mental world and receives and produces data in this metaphysical, abstract world. This world is captured in the expression, "As I think, so I am."

### ORDERING ABILITY—SEQUENTIAL

The dominant Abstract Sequential's ordering pattern is sequential and can be represented in two-dimensional geometry. He orders in a tree-like manner starting with a common core and branching into parts derived from the base. He also views the world in curvilinear forms through arch and circles consisting of parts which are "welded" to make a whole. From these "welds" and branches, the AS draws correlations, predicts next steps, and involves himself in their scope and sequence.

#### View of Time

The dominant Abstract Sequential views time in terms of the present, an historical past, and a long-range projected future. Scope and sequence are his concerns. Future events are projected and predicted by using history as a foundation and building in standard arithmetic and geometric progression contingencies.

In essence, the Abstract Sequential sees

"now" as a synthesized result of the past. Tomorrow will reflect today plus the cumulative past plus the effects of trends.

#### Thinking Processes

The thinking processes of the dominant Abstract Sequential are based on intellect and the laws of logic. Judgments are based upon criteria which are acceptable to tradition, scientific convention, and/or the intellectual atmosphere of the present time or academic community. The AS carries "mental matrices" or "intellectual formulae" to use in his analysis of experiences.

Using his analytical faculties, the Abstract Sequential mentally outlines, correlates, compares, and categorizes data in a manner unsurpassed by any other style. Because his thinking processes are often fluid, active, and quick, he can appear to be flighty and in a constant state of unorganized flux. A definite tipping to the latter, however, may be due to an extreme nervous sensitivity. Such behavior is characterized in the "absent-minded professor" image.

Capable of introspection based on the scientific rationale, the logical Abstract Sequential will often choose not to investigate or pursue the more subjective realms that his Abstract Random counterpart selects. This preference stems from the belief that that which does not fit his logic system or view of reality is considered paranormal and can be dismissed as irrational.

If free from emotional attachment, bias, and prejudice, the Abstract Sequential can detach himself from the issue he is examining and carefully research and weigh values, facts, and numerical data that demand balance. The thinking processes of the dominant AS permit him to



## AS

excel in working with models, matrices and hypotheses. Having an academic-type mind, the AS takes his subject matter discipline seriously and knows it thoroughly. His unconscious thirst for knowledge can make this individual the "eternal student."

### Validation Process

Truth or validity, good/evil, right/wrong, real/unreal, friend/enemy are judged through the use of the Abstract Sequential's personal intellectual formulae, through logic, and through a scientific system of experimental procedures and controls.

The Abstract Sequential will also accept "truths" from the outside *IF* the purveyor is properly- and appropriately-credentialed, is known for his rigorous and exhaustive research techniques and scholarship, has utilized conventionally-accepted means of verifying data, and works within the bounds of propriety, i.e., he does not become speculative.

### Focus of Attention

The dominant Abstract Sequential's focus of attention is anchored in the field of knowledge, particularly knowledge that is concerned with materialistic matters. He appropriates objects which contain knowledge (books, tapes, manuscripts) and which symbolize knowledge (influential friends, degrees, awards, etc.). He believes that "knowledge is power" and uses that attitude in his rational approach to decisionmaking. He is willing to gather proven "knowledge for the sake of knowledge" because he accepts material constancy and the fact that his type of thinking requires "pushbutton" data.

The Abstract Sequential needs to be conversant with facts and will usually surround himself with massive documentation which he will refer to and cite in order to make a point. The AS office or home will usually have a voluminous library that he views with pride.

### Creativity

The creativity of the Abstract Sequential reveals itself through his identifying new facts, thoughts, or new concepts based upon his ability

to synthesize, analyze, and correlate disparate empirical materials. The AS is a master synthesizer and eclectic who combines the works of others and extends their work by analyzing them or adding something to them. His creations manifest themselves through a process of inventive synthesis rather than through discovery.

The product of the Abstract Sequential adds to past works by increments. He is careful to confine himself to the range of the material he is working with. And, he does not overstep the boundaries or "go beyond the data."

The Abstract Sequential's intellectual ability permits him not only to conceptualize and to develop hypotheses and theories but, often, to produce working models based upon carefully-controlled experimentation. The AS is usually able to transmit his knowledge and ideas graphically through the spoken and/or written word.

### Approach to Change

The dominant Abstract Sequential is not adverse to change, but he is notorious for his "yes-buts." The AS can suffer from the inability to take a definite position. He, more than any other style orientation, seemingly prefers to "sit on the fence." He carefully weighs all data, debates, and argues intelligently with himself and others, and often remains "on the fence" long after the proverbial "cows have come home."

Change for the Abstract Sequential comes slowly and with much cross-checking and deliberation. His need for balance is what prompts him to consider both sides of any question or issue and logically construct mentally both the scope and sequence of either. If, however, the AS feels that he has the ultimate Truth, he, like his Concrete Sequential counterpart, may not be open to any hint or suggestion of change.

### Approach to Life

The dominant Abstract Sequential is a serious and determined realist who views the world around him with microscopic vision. He is naturally impelled to use reason and logic to describe and explain things that occur in his everyday life. Viewing emotional displays as being

irrational at times and not fitting or proper intellectual behavior, the AS may outwardly appear cold and aloof. In reality, this disinterested attitude may well be a mask. The Abstract Sequential's emotions can be very intense, as stirring as his thoughts and as deep as the abstract knowledge he studies. His emotional attitude can be as global and as diffuse as the concepts and theories with which he is preoccupied.

The Abstract Sequential can, as a result, sense more than any other individual the meaning of differences and nuances and can spend the majority of his life sorting out the many varied and conflicting thoughts and emotions he encounters. It is this preoccupation with the logistics of what he encounters that may make him reluctant to voice an opinion on most matters and prompt his need to classify, label, and box his thoughts and emotions into neat little compartments.

#### **Environmental Preference**

The Abstract Sequential prefers an environment that is ordered and mentally stimulating. He dislikes wasting his time making mistakes that will eventually have to be remedied. He therefore needs solitude in order to concentrate on the task at hand. If the environment is full of distracting sounds, the delicately wrought balance in his thinking process could be upset, resulting in an inability to concentrate and prompting extreme nervousness.

The Abstract Sequential thrives in an intellectual environment where he can communicate his knowledge and research with others who possess the same interests. His environment will usually be void of distracting colors and objects. His office may contain a wealth of books, manuals, computerized print-outs, statistical tables and graphs. The AS works best in an environment in which he can function independently without excessive supervision and where there are no distasteful and unpleasant sounds, people, and objects.

#### **Use of Language**

The Abstract Sequential loves polysyllabic words because they are conveyors of his abstract thoughts. Words are used as signs to represent

physical objects, processes, and conditions. They are also used to describe generalizations (e.g., freedom, liberty) which occur in the world. Rarely do their words convey thoughts not subject to "rational" scrutiny.

The Abstract Sequential is endowed with the amazing ability to decode words and use them with precision. He is naturally compelled to use words with logic patterns to describe, explain, and justify things. This compulsion often reveals itself through extraordinary talkativeness and is the reason that Abstract Sequentials are labeled "highly verbal." The use of formal language and standard English is expected in order to communicate well.

#### **Primary Evaluative Word**

When the Abstract Sequential views a top-of-the-line performance, the word most often used to describe it is "excellent."

#### **Major Intolerances**

In general, the dominant AS dislikes:

- hazy or sentimental thinking which leads to loose or inaccurate conclusions,
- ideas and claims which do not meet his rational test of logic or approved test of validity,
- metaphors and emotional stimulants in sounds and gestures, and,
- boisterous activity and excessive rules and regulations.

#### **Negative Characteristics**

Negative AS behavior may manifest itself as follows:

- discrediting and devaluing other viewpoints by calling them mystical, plodding, off-the-wall, irrational, and unsubstantiated,
- getting lost in their ideas and building "castles" in the air (Ivory Tower Syndrome),
- believing their thoughts to be reality and failing to test them in the concrete world,
- absentmindedness,
- argumentative, excessively skeptical, and harshly critical,
- coldness and isolation,
- taking a person's idea and reducing it to something trite or mundane in order to make

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 AS

- it sound quite common, and
- the use of polysyllabic words to inflate their ego, to confuse others, and to “put people in their place.”

#### Observable Traits

In general, the following traits may be observed:

Feeling that there is a time and place for everything. Abstract Sequentials dislike any public display of affection, even from their spouse. They also do not like attention brought to them in public. A surprise rendition of “Happy Birthday” sung by four waiters holding a cake with a lit sparkler can put the AS into a state of total embarrassment and possibly under the restaurant table.

An Abstract Sequential will sometimes have difficulty picking up subtle verbal and nonverbal cues and inuendos. Consequently, they will want you to explain your rationale, motives, and reasons for saying or doing something.

Though not fond of the television “boob” tube, they will watch television documentaries, news specials, political debates, and educational programs. They are excellent movie critics, but attend only those movies that stimulate their intellectual interests, not their emotions.

An Abstract Sequential can completely forget your birthday, anniversary, or a luncheon date unless it is written down somewhere. Some of these individuals are known for their absent-mindedness and forgetfulness. Many items belonging to the AS will be stacked in piles, filed away in cabinets and dresser drawers, and placed on closet shelves. Some of these items are “lost” forever.

This individual can verbally “put you down and in your place” in a most eloquent manner. Because the Abstract Sequential can be a smooth manipulator of the double *entendre*, many individuals never realize that they have been insulted.

Guardian angels have a fulltime job watching over some Abstract Sequential individuals. These individuals will arrive at a particular destination either by car or on foot not remembering how

they got there. Their minds are usually so preoccupied with other thoughts that they are amazed that they arrived at all.

Never expect a short conversation with an Abstract Sequential particularly if asked a question concerning a subject he dearly loves. Being highly verbal, this individual will often monopolize a conversation by offering his rationale, opinions, theories, sources, etc. In other words, he may provide “more than you ever wanted to know.”

The Abstract Sequential parent will set high standards and goals for his child. Emphasis is placed on social and academic achievement and the AS parent will see to it that his son or daughter is exposed to every opportunity for growth and development. Children are expected to demonstrate proper manners, to recognize their duties and responsibilities within the family structure, and to uphold the reputation of the family name. Although quite loving, the Abstract Sequential parent is not overly demonstrative of his affection toward his child.

With some exceptions of tweedy-types and formal dressers, most Abstract Sequential individuals are not strongly concerned with matter of dress. They are of the opinion that dress codes are for other people, not them. Some think nothing of wearing stripes with plaids, mismatched or clashing colors, or feel that an open shirt and sweater is acceptable at a dinner dance. They believe that clothes are simply something to be worn on the body and cannot figure out why people make such a fuss over what a person wears or doesn't wear.

The Abstract Sequential will do his best to impress you with how well-informed he is. This individual loves to read and relishes a thick, meaty book. His taste in literature runs anywhere from *War and Peace* to autobiographies of famous presidents and writers. He believes that every individual should be knowledgeable about something. If he thinks that you haven't had a bright idea in years or are not conversant in any of his areas of interest, he will never ask you for your

opinion or view on anything. He may even dismiss you as an irrelevant being.

Many Abstract Sequentials are highly skeptical. Trying to convince an AS of something he doesn't want to be convinced of can be a losing

battle. This individual can engage himself in a superb game of mental gymnastics and never tire as he matches an opponent point for point. He is very often quite serious in his arguments and in his mind-game antics.

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## STYLE CHARACTERISTICS OF THE DOMINANT ABSTRACT RANDOM INDIVIDUAL

### WORLD OF REALITY—ABSTRACT

The “real” world for the dominant Abstract Random is the abstract, non-physical world of feelings and emotions. Reality for him is sensed through “vibrations” and consequently not limited or tied to the physical world.

The Abstract Random lives in a world of feelings and imagination. This world is objective to the AR, and it does not stand still very long. This is a fluid, incessantly-active world that does not accede to statistics or man-made models. This world is visible to the meta-physical senses of clairvoyance and clairaudience. Such senses permit the highly developed AR to tune into the universe, the cosmos, and the “music of the spheres.”

The following captures the Abstract Random view: “It is only with the heart that one can see rightly; what is essential is invisible to the eye.” (Antoine DeSaint-Exupery)

### ORDERING ABILITY—RANDOM

The dominant Abstract Random’s ordering ability is non-linear and multi-dimensional. Events are not perceived as occurring in a point-by-point progression. Instead, events are experienced holistically by “tuning in” to them fully as a person would experience a wave on an entire sea.

To the Abstract Random, an experience is a “happening” with many nonfactorable causes joining naturally to form an event. This is, in essence, what psychologist Carl Jung called “synchronicity.” That is, a meaningful coincidence occurs in the transconsciousness reality which is beyond the categories of space and time. The dominant Abstract Random organ-

izes by putting himself and others into the event, i.e., he uses a human equation in decisionmaking.

### View of Time

The dominant Abstract Random views time as consisting of “the moment.” He does not like to use time to measure, locate, or restrict his experiences. Since the past and present are merged into a oneness, tomorrow can be significantly different—the characteristics of “compounds” are not always predictable. The Abstract Random assumes that the future will take care of itself. This attitude regarding time prompts the AR to live today to the fullest for it is the “first day of the rest of his life.” It also permits him to hold the position that a single person or event can and does make a significant difference.

### Thinking Processes

The dominant Abstract Random’s thinking processes are anchored in feelings. Judgments are made in relation to prior emotional experiences—be they positive or negative.

The AR’s mind is like a psychic “sponge” that can absorb ideas, information, vibrations, and impressions as they flow around and through him. His thinking processes can also be shrewdly perceptive, critical, and suspicious due to an innate ability to see behind the outward appearance of a person, place or thing.

The Abstract Random’s mental ability often appears to border on mysticism and psychism as thoughts and feelings filter his subconscious to his conscious mind without apparent or logical reason, motivation, control, or cognition. He can establish rapport with individuals and tune into their inner patterns, moods, and motivations in



AR

an uncanny way. Such rapport permits both the qualities of sympathy and empathy to emerge. This ability is captured by the familiar sayings, "I know where you are coming from," and "I know how you feel."

The AR is highly retentive of themes, overall tapestries, and "first impressions." He has a tremendous absorptive capacity for seemingly-unrelated facts, strong recollection ability, vivid imagination, and is highly impressionable.

#### Validation Process

The proof and validity of anything to an Abstract Random comes via an inner guidance system which is based on his own personal objective and subjective experiences. He is attracted to conditions which resonate in harmony with him and is repulsed by dissonance. Neutral conditions are considered lifeless, dead, or boring. Having an almost supernormal ability to detect fraud, phony and false claims, he uses his shrewd perception and discrimination to test validity and nonvalidity. His best barometers are his instincts and emotions which he expresses through terms like "gut reaction" and "when it's right, you'll know it."

Validation through authorities or credentialed individuals is rarely considered. However, "significant others" who are felt to be "on a similar wave length," "have been there," and are trustworthy and understanding, can provide data which are acceptable to an Abstract Random.

#### Focus of Attention

The dominant Abstract Random concentrates his energies on relationships. He establishes attachments to certain ideas, people, places, and things; and he may not give up the relationships despite all logical reasons which support a breakup. These relationships can range from maintaining a spent partnership to keeping an old school prom program.

The Abstract Random is more concerned with the quality and refinement of his experiences or groups of experiences than with their quantity. And, he often directs his attention only to that which he finds has personal meaning. The AR can therefore be quite dogmatic in wanting *his* pur-

poses met and *his* ways and means addressed by others.

The AR often appropriates objects as mementos which symbolize strong bonds and rekindle strong feelings. These could include such things such as love letters, slides of a vacation, a family ring, or people such as a son or daughter the Abstract Random "just can't let grow up." AR's can also be collectors of art, music, and plant life.

#### Creativity

The dominant Abstract Random does not create new or refined technology, new ideas or new theories. His contribution lies mainly in mirroring or re-presenting images of nature through the arts and music so that men can learn about themselves and about the beauty that surrounds them. At a deeper level, the AR uses his sensitivity to capture the essence of an object and portray its life, purpose, and meaning. He synthesizes with an imaginative and subjective increment; he rebuilds and remolds that which has already been created into a more refined and beautiful state.

Some Abstract Randoms create conditions for self-understanding and personal healing. A natural detective at heart, the dominant AR can "create" exceptional relationships among people by tying into deep felt needs, wants, desires, and aspirations. This permits some AR's to emerge as sensitive counselors, advisors, sounding boards, and mentors.

#### Approach to Change

The dominant Abstract Random's approach to change is subject to his current emotional/spiritual attitude and the intensity of his interest in that which is being subject to change. He can refuse to accept any modification in a purpose or goal because he can't or won't accept the idea, principle, or personality behind the proposed change. Or, he can authentically "change over night" because of an in-depth "change of heart" or having "seen the light."

Many sensitive Abstract Randoms are able to differentiate and discriminate among their inner emotional signals and are therefore able to control

their responses. They "know" the differences among needs, wants, desires and aspirations and make decisions accordingly.

If, however, the Abstract Random has undifferentiated emotions and is highly impressionable, he can be easily duped and swayed by a convincing oratory or sales pitch. This makes him easily influenced toward change which may or may not affect him positively. If he has highly differentiated emotions, he will "see through" passionate speeches and "call a spade a spade."

#### Approach to Life

The dominant Abstract Random is an idealist whose approach to life takes him through emotional/imaginative/cosmological realms using a transcending logic which is often neither discernible by nor acceptable to others using conventional logic as a standard. He is thus sometimes considered to be a daydreamer, a "mystic," or an "off-the-wall flake."

This individual has a natural exuberance and his approach to life is usually intensely enthusiastic. More than any other individual, the AR feels with passion the emotional extremes of a polarity—love/hate, joy/depression, pleasure/pain, peace/war, etc. Because of this continuous discharge of impassioned energy impulses, he may appear "hyper" when indeed he may not be. Nevertheless, he has to retreat occasionally into the quiet of his psyche if he is to replenish the energy expended in the physical world.

Often protective of his innermost thoughts and feelings, the Abstract Random may well resent anyone who probes too deeply into his private life. He usually reveals his inner self to those whom he trusts and loves.

#### Environmental Preference

The Abstract Random is extremely sensitive to subtle vibrations and is, therefore, profoundly affected both positively and negatively by his environment. The environment must permit him freedom of movement, expression of thought, and emotional experiences. If it does not, he will become anxious and/or frustrated. A plain or spartan environment can stifle his spirit and

creativity. The Abstract Random functions best when he can "read" and "exchange energies" with a colorful, variable, and object-packed environment.

Disliking dogmatic and restricting rules and regulations, the Abstract Random can maneuver and manipulate through the red tape and bureaucracy of an organization with remarkable ease and finesse. Some Abstract Randoms are the classic chameleons, able to blend with their environments yet remain distinct personalities within it. Others can project nonconforming images which result in people leaving them alone.

The Abstract Random's emotional attitude and behavior change as environmental conditions vary, but he will always require a "place" to which he can retreat to recollect, recharge, and reorganize.

#### Use of Language

The dominant Abstract Random communicates through sound, color, music, symbols, poetry, and gestures. He uses metaphoric language because he thinks in images which cannot be communicated well in a linear or direct manner. Abstract Randoms often make their points through stories and through humor.

The Abstract Random uses words to clothe the images created in his mind to give them objectivity to the outside world. Consequently, his speech contains multitudinous adverbs and adjectives. The AR uses his hands and body movement naturally when communicating with others and is often the object of the statement, "Tie his hands behind his back and he won't be able to talk."

Abstract Randoms also talk in sentence fragments and appear to share "chunks" of information when talking to another AR. Often two Abstract Randoms talk at one another, at the same time, and yet "know" what the other is saying.

#### Primary Evaluative Word(s)

"Super," "fantastic," "out-of-sight," and "dynamite" are evaluative words used by an AR when describing a top-quality "happening."

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**AR**
**Major Intolerances**

In general, the dominant Abstract Random dislikes:

- dogmatic and strictly logical systems of thought,
- cold, "noncaring," nonspiritual, and unemotional people,
- conservative and restrictive environments,
- being forced to "justify" his feelings,
- being required to quantify his qualitative experiences, and
- being continually told to be "realistic."

**Negative Characteristics**

Negative AR behavior may manifest itself as follows:

- chronic tardiness to meetings and the failure to meet deadlines.
- anchoring in ego-centered "me-first" attitude and thereby disregarding the rights and needs of others,
- "flightiness," inaccuracy, and inattention to task and detail which earn him the title of "off-the-wall-flake,"
- extreme moodiness due to the inability to balance his experiencing of the extremes of emotions,
- excessive worrying and self-doubt,
- jealousy and over-dependency on others,
- strong passions and extravagance, and
- inflated self-image.

**Observable Traits**

In general, the following traits may be observed:

Routine procedures and orderliness can be viewed as boring and nonessential to an Abstract Random. Consequently, the bed may not be made upon rising. Such an activity may be viewed as a waste of time and energy particularly because the bed will be used again in just twelve hours. Likewise, dishes and clothes are washed only when it is economical time-wise or the AR has run out of both.

Some Abstract Randoms can be "into" four or five books at once. Dog-eared pages and turned over books are found in the bathroom, bedroom, living room, family room, car, and jacket pocket.

Despite a prolonged absence in reading a particular book, they have an uncanny ability to "step back into" the theme immediately upon starting where they left off.

Many Abstract Randoms are exceptionally fine dancers. Music can give these individuals a virtual "high" and send some into a mystical state of transcendence. These are the individuals whose toes and fingers unconsciously tap in time with the music or whose bodies sway and swing with the rhythm. Some Abstract Randoms are radio "station hoppers" as they search the wave bands for their favorite songs.

The Abstract Random's desk top is rarely visible due the various items deposited on it. His desk is not used as a workbench; instead it serves as a repository for items arranged in patterns known only to him. The "office" of an AR is located wherever *he* is. His filing cabinet is "in his head," in his briefcase, or in a shopping bag, book bag or carrying purse. He uses a physical office only as a place to touch base and deposit materials.

Live plants and Abstract Randoms have a natural affinity and love for one another. AR's can over-water and under-water their plants and the plants will still thrive. They treat plants like human beings and will talk to them, stroke them, and, in some cases, even play music for them. Many Abstract Random homes and offices will often look like jungles.

Abstract Randoms can be reunited with people they haven't seen for years and pick up on the friendships as if there were never a day lost. Such friendships are maintained despite the lack of letters and telephone contacts.

Many Abstract Randoms are romantic and sentimental. Some love to collect antiques and treat each item with a loving respect and honor in their home. Other AR's collect so much memorabilia over the years that their attics or basements virtually "runneth over." These individuals find it difficult to throw anything away and only when pressured or when they run out of storage space will the Abstract Random reluctantly part with his "treasures."

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These individuals love bright colors and clothing. Abstract Randoms love to wear bright stripes, plaids and paisleys and sometimes they wear all at the same time. The AR will dress to please himself and the mood that he is in. Dark or plain colors and surroundings tend to depress the Abstract Random. Consequently, he will make sure that his environment is pleasing to his eye and that it reflects his taste in decoration.

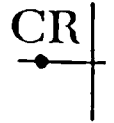
An Abstract Random parent can be the classic "Peter Pan." This individual is totally immersed in his children's activities and will often take part in their games and parties. The AR can be a "softie" when it comes to bottom lines and deadlines. With a little persuasion, this parent may give into the "yes but's" of his children. The Abstract Random loves to get involved with the school P.T.A. and local library. The AR usually volunteers to head the Bake Sale, be Room Mother, or Little League coach. As the child

grows older, the Abstract Random parent is his child's strongest supporter and admirer.

Abstract Randoms may forget the exact date of your birthday or anniversary, but they know the month. Gifts, cards, and telephone calls for such occasions may come at any time. Surprise gifts may arrive too. AR's are notoriously spontaneous and will send you long stemmed roses on an un-birthday or a greeting card that simply states "thinking of you." Abstract Randoms are not conventional in their gifts or greetings. Their gifts can be totally of no practical use and their cards can be hysterically outrageous.

Abstract Randoms love animals, cry at weddings, see movies over and over again, keep photo albums and scrapbooks, remember their childhood Teddy Bear, and donate to charities. They love to be near water, thrill to the beauty of a sunset, and drag out the Christmas records at the first snowfall. Abstract Randoms love to reminisce.

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## STYLE CHARACTERISTICS OF THE DOMINANT CONCRETE RANDOM INDIVIDUAL

### WORLD OF REALITY—CONCRETE

The real world for the dominant Concrete Random is the concrete, physical world. This world is used by the CR only as a "launching pad" or starting point and as a milieu in which to carry out his activities.

The Concrete Random uses intuition to peer into the solid, sensual world to identify its nature and significance. His world of reality is captured in a statement by Albert Einstein: "The most incomprehensible thing about our world is that it is comprehensible."

### ORDERING ABILITY—RANDOM

The dominant Concrete Random orders his world of reality in three-dimensional patterns. Agreeing that events occur in a linear fashion, he also acknowledges that an event can be affected by outside variables.

Events affected by outside variables can result in a deviation from normal linear progressions to a series of events with interrupted or "skipped" links and the potential of a new, unpredicted event appearing from "out in left field." Several variables can also come together in a confluent manner to form a "stream of consciousness" which, to the Concrete Random, has no apparent beginning or end.

### View of Time

The dominant Concrete Random's view of time is the "now" which contains the sum total of the past, the interactive present, and the seed for the future.

### Thinking Processes

The Concrete Random's thinking processes emphasize intuition and instinct. The instinctual processes are used to register the concrete world

as a starting point. Then his primary ability, intuition, is used to see into and beyond objects in the concrete world to try to identify their nature and possibilities. This activity results in the CR attributes of "living in an air of expectancy," "insights," and "penetration of other's thoughts, words, and deeds." The Concrete Random feels that every person, place, thing, and experience has messages locked inside and he is duty-bound to use his intuition as a key.

The Concrete Random's thinking processes are quick and impulsive, discriminating and critical, and highly capable in matters that deal with the concrete world. Having an adventurous, optimistic, and inspirational mind, the CR may ignore theoretical considerations and react to the inspiration of the moment. His thinking processes can easily move into areas that defy human logic and that supersede convention. Seeking and searching for unity in just about everything, the CR is usually busy finding the critical or missing link, the coherent principles, or the *modus operandi* that makes something fit into and function in the everyday world.

The CR's thinking process is independent and insightful, and his mind can make the transition from fact to theory with amazing speed, making "intuitive leaps" in exploring unstructured problem-solving situations. This same uncanny ability manifests in making the transition from theory to fact and can leave the Concrete Random unable to explain his intervening steps or the source of his solution.

### Validation Process

The dominant Concrete Random rarely accepts anything on "outside" authority. This, however, should not always be construed as

rebellion or refusal to conform. Validation or truth of any idea, process, or method of application for the Concrete Random is achieved through practical demonstration and personal proof of application. But even then the CR may not be completely satisfied or content with the finality of the validation. More often than not, he must carry on a further indepth probe into the source and/or genius of the subject at hand. This usually results in his finding other possibilities, alternatives, and options which prove to him that there can never be anything absolute or totally authoritative in human terms.

#### Focus of Attention

The Concrete Random's focus of attention, particularly in a learning or working environment, is on processes, methods, applications, and approaches to dealing with persons, places, and things. The CR is more often concerned with ideals than with material objects—more concerned with attitudes than facts. He often feels that the attitude or motivation behind the creation or implementation of something is more valuable and important than the thing itself.

#### Creativity

The product of the dominant Concrete Random's creativity is original and unique. Break-throughs for him rarely come by "figuring things out." They come via intuitive leaps or insights which are later rationalized.

Described as pioneering, progressive, inventive, and futuristic, the Concrete Random loves enterprise and his penchant for daring takes him into areas of thought which are either unexplained or untraveled by many. Consequently, the CR is often considered to be a "gambler" or "risk-taker" by his more conservative friends and co-workers. He is the true "idea" man who researches, gathers and produces; he often leaves the detail and completion of his projects to others.

Unique in his creativity, his ideas must and will be his own. The ideas may often defy logic or convention, and the result of his productivity may well be the building blocks or the cornerstone vital to any growing organization or society.

#### Approach to Change

The dominant Concrete Random is not adverse to change; in fact, he is often the principal instigator of it. This individual can be the "trouble-shooter" in an organization. He can eliminate what is old and nonessential; moreover he will redesign and restructure as he goes along. Concrete Randoms like to predict possibilities rather than events and often convey these through metaphors and not through models.

Also referred to as the proverbial "rolling stone," he is as changeable as his environment. He refuses to be entrenched in any one place for long periods of time. His diverse careers and job relocations may reflect this attitude. The Concrete Random thrives on changes that demand challenge.

To change his attitude or behavior is easy for the Concrete Random because he is usually not overly concerned with making impressions or going out of his way to win over people. In this respect, the CR is very much his own person.

#### Approach to Life

The dominant Concrete Random is a realist/idealist whose view of his world and surrounding environment is both telescopic and universal. Because the CR usually cares more for attitudes than cold, hard facts and for options alternatives rather than cut-and-dried, take-it-leave-it procedures and methods, he strives to understand the "why" of his world rather than the "how." And, he will do this in his own independent manner.

The Concrete Random's personal freedom is important to him and he needs his own "space" all times if he is to function at his best. Most CRs are natural leaders and can thus become impatient and/or frustrated if not placed or working in a leadership-type position.

#### Environmental Preference

The dominant Concrete Random seeks a stimulus-rich environment in which he has freedom of movement and expression. His motto is, "Don't fence me in." Further, he likes environments which are amenable to rearrange-

ment. He will, at times, purposely stir objects around in order to bring about a change in scenery, relationships, and opportunities.

The Concrete Random often thrives in a competitive environment particularly when he can display and use his wits. Disliking dogmatic and restricting rules and regulations, and unattractive or bland environments, the CR will pack his bags and leave rather than remain in an environment he feels is restrictive and/or sterile.

#### Use of Language

The Concrete Random uses words which may have a present literal meaning and acceptance. But they may not always convey what he himself believes the words connote. Because of his ability to sense subtle and universal nuances hidden in a word, the CR feels that words do not convey true meaning.

Some Concrete Randoms feel that the English language is flat, and they therefore speak and communicate their ideas and emotions with dramatic animation and sweeping gestures. Because of the many images a single word conjures up in his mind, the CR's speech may tend to ramble. This is simply because his mind is working faster than his ability to mouth the words.

His sentences may be left unfinished and dangling as he moves onto his next thought. This behavior does not upset his fellow Randoms. It will, however, virtually drive a Sequential "up the wall." The Concrete Random is a glib and prolific speaker whose conversation is lively, colorful, informative, and rarely dull.

#### Primary Evaluative Word(s)

"Superior," "superb," and "great" are words used to describe a top-of-the-line performance.

#### Major Intolerances

In general, the dominant Concrete Random dislikes:

- people who are unwilling to change or consider options,
- fence-straddlers who continually seek "hard data" and/or guarantees that the CR's ideas will or do work,

- procedures which must be followed without exception,
- being asked to prove that the faculty of intuition exists, and
- fuzzy-headed "mystics" whose approach to life destroys the credibility of insights and premonitions.

#### Negative Characteristics

Negative CR behavior may manifest itself as follows:

- bandwagoning and jumping from idea to idea without proper grounding,
- ruthless use of any means to the chosen end,
- abandonment of an idea or evolving project before it is fully completed,
- forgetting promises or agreements due to an "out-of-sight, out-of-mind" attitude,
- disinterest in practical ramifications of an idea which is to be implemented,
- irritation at other individuals who cannot make his intuitive leaps,
- the willingness to sacrifice himself and others in order to fulfill a mission, and
- jumping to "too quick" and rapid conclusions.

#### Observable Traits

In general, the following traits may be observed:

Concrete randoms are the individuals who refuse to accept the words "don't" and "can't." If told not to do something, they will usually find a reason or way to do it. If told they can't do something, they will immediately set out to prove that they can. These individuals seem duty-bound to beat whatever odds or systems they encounter.

The Concrete Random is notorious for not reading directions or instructions. Some CR's feel that directions were written for "dummies." Others feel that not reading directions is part of a direct challenge to their wits and competence. When their self-directed efforts fail, Concrete Randoms have been known to sneak off, instructions in hand, to read them when no one else is watching.

A Concrete Random will hesitate to give you a definite position on anything. For example, if

CR

told something is "black," they will respond with a "yes, but it could be indigo, dark blue, or dark brown." Pinning them down to a final answer they will stick with and not change a month later is not an easy task. Some CR's like to cover all bets to avoid entrapment.

This individual is outgoing, friendly, aggressive, and loves to mix and socialize at a cocktail party. Concrete Randoms enjoy maneuvering themselves in and around the room. They join in on a conversation momentarily and then move off to another group of people. These individuals can be the proverbial life of the party and can be relied upon by any host to liven up the party if it should start to "bomb."

Concrete Randoms have a natural curiosity. They love to "tinker" with ideas, models, gadgets, cars, and household appliances. They also like to experiment and may rewire the entire house to accommodate a new invention. Young CR's are the children who love to play around in the school chemistry lab and take toys, bikes, and lamps apart.

A Concrete Random has to have four or five irons in the fire and has the energy to keep them all going. He requires conditions which permit personal movement and the development of his ideas. If he feels limited, confined, or restricted, he will complain about being bored or having "cabin fever."

Some Concrete Randoms have so much personal charisma that they can "charm the pants off a snake." These individuals can have a melodious voice, a down-to-earth appeal, and an air of sophistication. CR's also love to hear the sound of applause for their efforts. This is not necessarily an ego problem; rather, it serves as their shot of "adrenalin."

The CR likes to be a leader, not a follower. These individuals love to take charge and to be in charge. They appear to thrive on controversy and to be at war within themselves and against various evils. They are cunning and brilliant strategists, but often withdraw to watch followers implement their dreams.

Concrete Random parents are not strict disciplinarians. These individuals will often, within reason, allow their children to "Do their own thing." They encourage their children to experience life, learn by trial and error, and to pick themselves up by their own bootstraps and try again when problems arise. CR parents give their children guidelines, options, and alternatives rather than strict rules and regulations. In some instances, the Concrete Random would prefer to be a friend or pal their children can freely come and "talk" with rather than be a "Do as I say" parent.

Some Concrete Randoms will have a career with many moves or will make changing jobs their career. One might get the impression that the CR has had a bad employment track record when indeed this individual may have purposely moved from job to job due to personal offers, job enrichment, and increased financial opportunity.

Concrete Randoms can know the punch line of your joke or the point you are trying to make before you finish. They will involuntarily start to nod their heads or may even blurt out the answer if not able to restrain themselves. In most instances, the CR has not heard your joke or reached your conclusion. He has just experienced another of his intuitive leaps.



**APPENDIX D:**  
*Ethics Letter*

October 11, 1990

Dear Study Participant,

As part of a one-course project, I am conducting a study of teachers' learning styles.

As part of this study, you will be asked to complete a "matrix form" to determine your natural, flexed, adapted, and coping learning styles according to Anthony Gregorc's conception of the four learning styles--Abstract Random, Concrete Random, Abstract Sequential, and Concrete Sequential. These categories are in themselves neutral. Their delineation will only aid in self-understanding as a teacher and as a person.

You will then be given descriptions of each of Gregorc's learning styles and be asked to provide confirmation of each, based on your own educational experiences. The information will be obtained through interviews which will be taped, transcribed, and returned to you for verification.

All information obtained from this study will be handled in a professional and confidential manner. When responses are released, no names, locations, or any other identifying information will be included in any discussion of the results. You also have the right to withdraw from the study without prejudice at any time.

Your consent to participate in this study will be indicated by your willingness to continue.

I appreciate your assistance with this study. If you have any questions, please feel free to contact Rochelle Yamagishi at 329-9280 or Dr. Michael Pollard, advisor for the project at 329-2296. You can also contact any member of the Human Subjects Research Committee at the University of Lethbridge for additional information. The person to contact is Dr. Nancy Grigg, 329-2459.

Yours truly,

Rochelle Yamagishi