DOCUMENT RESUME

ED 394 420 HE 029 114

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TITLE Re-Thinking Mentoring Relationships.
PUB DATE Apr 96
NOTE 29p.; A version of this paper was presented at the Annual Meeting of the American Educational Research Association (New York, NY, April 8-13, 1996).
PUB TYPE Speeches/Conference Papers (150) -- Viewpoints (Opinion/Position Papers, Essays, etc.) (120)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Graduate Students; Higher Education; *Interpersonal Relationship; *Mentors; Professional Development; *Teacher Student Relationship
IDENTIFIERS *Protege Mentor Relationship

ABSTRACT

In this paper, the authors view mentorship not as the traditional one-to-one relationship between mentor and mentee, but "from the next scale up" as a large systematic collection of mentor-mentee pairs. This concept, borrowed from the graphic arts and called "macro-mentorship," is adopted as a means for obtaining new insights about traditional mentorship; this new view has a transformational effect on the lives of artists and academics. Three examples of macro-mentorship are discussed: Neo-Impressionist painters, a family of scholars with a shared academic lineage, and a research group organized around a military command framework. Recommendations from analysis of these exemplars include recognizing existing and new mentoring roles, increasing the awareness of one's academic lineage, and participation of mentor and mentee in meaningful joint activity. (Contains 32 references.) (Author/NAV)

Running Head: RE-THINKING MENTORING

# Re-thinking Mentoring Relationships

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Note: A version of this paper was presented at the American Educational Research Association, New York, April 1996.

## Abstract

Characteristically, mentorship in higher education is a one-to-one relationship between mentor and mentee. In this paper a view of mentorship is taken "from the next scale up" as a large systematic collection of mentor-mentee pairs. This concept, borrowed from the graphic arts and one called "macro-mentorship," is adopted as a means for obtaining new insights about the phenomena traditional mentorship. Three examples of macro-mentorship are discussed: the Neo-Impressionist painters, a "family" of scholars with a shared academic lineage, and a research group organized around a military command framework. Recommendations from analysis of these exemplars include recognition of existing and new mentoring roles, increasing the awareness of one's academic lineage, and participation of mentor and mentee in meaningful joint activity.

Re-thinking Mentoring Relationships

"Always think of the next larger thing." (architect Eliel Saarinen in Temko, 1962, p. 13)

Much of what we as educators know about mentorship has been derived from time-worn models and selective perspectives: guild systems, apprenticeships, and other systems of socialization intended to improve professional life.The growing importance of mentorship in several areas of educational enterprise calls for innovative ways for understanding mentoring relationships and settings. Accordingly, this paper attempts to cast a new look upon the educational and sociological phenomenon of mentorship.

To this end, we have adopted Tufte's (1990) graphic concept of "micro/macro" displays as an approach to the study of mentorship. His conception is that when information on isolated events are collected and graphically represented in a systematic way, a pattern emerges from which new information may be gained. Consider, by analogy, the forest and the trees. The health status of every tree in a forest may be graphically annotated as on a map. Such a map can be "read" at either the micro (i. e., individual tree) or macro (i. e., forest) level. Yet the kinds of inferences, interpretations, and conclusions available at each level are quite different from one another. In terms of mentorship, we believe that by taking a macro view some characteristics of mentoring will become evident that are typically obscured from both mentor and mentee.

By taking this maco view towards understanding mentorship, we hope to discover new characteristics about mentoring that may be employed at the (micro) level where daily mentoring occurs. In doing so, we extend the micro/macro concept to assert that insights gained from the macro view may influence mentoring activity at the local level. For example, if the map in the forementioned forest-to-trees analogy revealed stunted growth in one part of the forest due to disease or drought, one might attend to healthy trees elsewhere as a preventative measure. Our aim here is to make mentor-mentee relationships (herein referred to as mentoring dyads) more productive and effective by first studying mentorship in its larger context and then determining whether our insights are relevant to mentoring as it is typically practiced. This notion, that lessons

learned from observing mentorship at the macro level can enhance mentorships (such as those between professors and graduate students}, is one of several assumptions we make in this paper.

Encompassing this assumption is a second one that is more critical to the validation of our method of inquiry. Specifically, we assume that a concept taken from one knowledge domain, in this case the graphic arts, may serve as a kind of "analytical template" that is useful for exploring an entirely different domain of knowledge. Kuhn (1970) points to several instances in which practitioners within one knowledge domain led the way to major discoveries in an altogether different discipline because they were, with their unique vision, able to transcend the limits of the prevailing paradigm. John Dalton, for instance, is famous for his chemical atomic theory yet he was a meteorologist, not a chemist, by training. Consequently, he was able to see aspects of problems in chemistry that remained hidden from contemporary chemists who rigidly followed the methods and mindsets of the established scientific paradigm (Kuhn, 1970).

In the present case, we have taken an idea from the world of graphic design and used it as an interpretive framework to examine a sociological phenomenon. Others have similarly appropriated concepts from aesthetics in the analysis of non-artistic domains; literary and visual artists have applied their thoughts and artistic practices to educational research (Barone & Eisner, 1995; Eisner, 1991, 1993). Moreover, artistic metaphors, qualities, and design elements are used as a means for examining ideas and concepts in educational inquiry that are not inherently graphic (Diamond, Mullen, & Beattie, in press).

In coining the term "macro-mentorship" the everyday notion of mentorship can be thought of, in a new sense, as "micro-mentoring." From this emerges a third major assumption of the foregoing discussion, namely, that the concept of macro-mentorship is plausible and therefore valid. Because we define macro-mentorship a priori, there is the danger of the definition becoming increasingly fuzzy as its exemplars are sought. In this paper, we address this problem by first articulating both the concepts of mentorship and of micro/macro representation in terms of their respective critical attributes. Considering the former, for example, Anderson and Shannon (1988) state that serving as a role model is one of several important aspects of the mentoring

process. In terms of the latter, Tufte (1990) observes that one characteristic of micro/macro displays is that they combine separate data elements into an interrelated structure. In all likelihood, we reason, if macro-mentorship is a valid concept, its exemplars probably embody attributes of both mentoring and, when represented graphically (e.g., as an organizational chart, a family tree, or a network), micro/macro displays. This assertion, we believe, can be extended with the claim that if the graphic representation of a mentoring situation conforms to Tufte's defined concept of micro/macro displays, the depicted mentoring activity exemplifies macro-mentorship.

Three examples of what might constitute "macro" mentorship are presented herein—one outside and two inside academe. Our first example consists of the Neo-Impressionists, a group of European artists led by Georges Seurat who painted during the late 19th century. Their painting style, characterized by a dotted pattern of brushwork called pointellism, and their vision of a "scientific Impressionism" were major contributors to the emergence of modern art.

The National Consortium for Instruction and Cognition (NCIC) serves as a second example of macro-mentorship. NCIC was established in 1969 primarily as a social organization that met concurrently with annual conferences of the American Educational Research Association (AERA). However, as NCIC grew as an organization it became increasingly scholastic in nature and, most importantly, exhibited mentor-like characteristics and functions.

Our third example of macro-mentoring describes the activities of a research group, between 1971 and 1976, within the educational psychology department of a university located in the southwestern United States. The organization, referred to by its members as "the Ship", consisted of one professor and as many as 49 graduate students and 32 undergraduate assistants. Modeled on a military-style operational and organizational framework, the organization achieved extraordinary research productivity without the benefit of university or external funding.

By examining macro-mentorships, such as the ones previously noted, insights can be gleaned about the nature of mentorship that are not evident at the "micro" level where single mentor-mentee dyads operate. In this sense, we are philosophically aligned with Charles Eames, the American architect and designer, who learned from his mentor, Eliel Saarinen, the

"importance of looking at things from the next largest scale and the next smallest. This ability to look at problems from many levels, changing the frame of reference and thereby gaining new insights and solutions, was one of the Eames' greatest gifts" (Demetrios & Mills, 1989). After discussing insights about mentorship gained by studying it from "the next largest scale," we will return to mentorship as it is commonly practiced to ask: "In what ways can understanding from a macro-based view of mentorship be applied to everyday mentoring effectiveness?"

## The Nature of Mentorship in Education

The importance of mentorship is underscored by its ubiquity both in historical and functional terms. For well over two millennia mentors have been with us, guiding, encouraging, and supporting others, typically novices, on the path to achieving mastery. Nevertheless, the changing nature of the workplace and organizations in general has brought about a rennaissance in the practice and study of mentorship. The protean nature of employment today in all fields demands that employees absorb and implement job-related innovations at increasingly faster rates. Consequently, many charged with responsibilities for teacher preparation are employing alternative ways to deliver pre-professional and in service training, such as through the use of instructional technology, field-based training activities, and formal mentoring programs.

The mentorship literature focuses mostly on mentoring in schools (U. S. Department of Education, 1990; Wilkin, 1992) to promote supportive "training" environments in culturally sensitive or at-risk settings for student teachers (Stallings, Bossung, & Martin, 1990); first-year or beginning teachers (Wilkin, 1992); and teacher mentors or sponsors (Shulman & Colbert, 1987). Emphasis is on the work of schools and practising teachers to assist student teachers, and beginning or new teachers, in becoming a vital part of the classroom and school culture. Whether short- or long-term in their scope, mentoring arrangements are generally understood to be a positive, worthwhile activity giving support to mentees during teacher training (Cameron-Jones & O'Hara, 1995). Practicing teacher mentors, who take up the challenge to become more actively involved in "training" new teachers, expand their educational repertoire as they rethink their own practices (Wilkin, 1992). However, some suggest that career and psychosocial benefits (such as

feeling of acceptance) are less likely to arise from such structured mentoring initiatives when mentor-mentee dyads are assigned rather than allowed to develop informally (Noe, 1988; Cameron-Jones & O'Hara, 1995).

Along with the expanded use of structured mentoring schemes many have come to realize the need to more clearly articulate a definition of mentorship. This is particularly true in the case of formalized plans for teacher mentoring because "only when a strong and clear conceptual foundation of mentoring is established can effective mentor programs for beginning teachers be constructed" (Anderson & Shannon, 1988, p. 41). Even so, mentoring is a complex process that is often misunderstood by its practitioners (Head, Reiman, & Thies-Sprinthall, 1992). In their comprehensive model of mentorship, Anderson and Shannon (1988) identified primary attributes of a good mentor to include those of role model, a nurturer who provides growth, and a caregiver who serves as a parental figure. Additionally, they specify the functions of the ideal mentor: teacher, sponsor, one who encourages, counselor or problem-solver, and friend—one who accepts and relates to the protégé.

The mentor as one who befriends is a theme especially emphasized by Gallimore, Tharp, and John-Steiner (1992) who assert that attraction and attachment underlie all effective mentorships and can be manifested at low levels of interpersonal intimacy. Alternative models of intellectual friendship, emotional intimacy, and communication (Keyton & Kalbfleisch, 1993) offer perspectives on new forms of mentorship. From a sociocultural or "neoVygotskian" perspective, joint productive activity is a crucial ingredient in the formation of mentoring relationships (Gallimore, Tharp, & John-Steiner, 1992). Later during the discussion of the Ship, the value of goal-directed everyday activities and settings will be reintroduced as an important component of this example of macro-mentorship.

Mentoring within universities is becoming noteworthy even though it still lags behind school-related mentoring programs as a subject of inquiry. For example, a study which offers a mentoring-empowered model considers how advisors might best work with graduate students (Selke & Wong, 1993). Within university settings, a mentor has traditionally been thought of as

the teacher, adviser, or sponsor who is also the thesis supervisor. Yet, as in other domains, this formulation of what constitutes a mentor is under re-examination; professors and students are working together to reconstruct the traditional roles and perceptions of mentor thereby "letting go of the bike" in exchange for student empowerment (Taylor, 1994).

The significant title or identity of "mentor," and corresponding role and characteristics of successful mentors, is clearly a line of inquiry which runs throughout the literature dealing with mentorship in higher education. Through a survey completed by 224 professors at two universities, Kogler Hill, Bahniuk, Dobos, and Rouner (1989) found that mentoring in academic settings, as in other environments, is a multidimensional construct. While mentorship is primarily a one-way, parent-child type of relationship in which the mentee is given special attention by someone of higher status, it also involves a "peer-pal" element. Sands, Parson, and Duane (1991) also conclude that mentorship is multidimensional in nature. In their study, 347 faculty of different gender and rank completed a survey in which they rated the importance of characteristics that would constitute an "ideal" faculty-faculty mentorship. A principle-components analysis revealed four mentorship factors or dimensions: friend, career guide, information source, and intellectual guide. Of note, only one-third of the participants reported having a mentor while serving as a faculty member at an academic institution.

Thus far this discussion on the more general nature of mentorship has focused on mentoring arrangements in which one person mentors another. However, it is important to recognize that mentoring activities may also occur at levels other than this traditional one-to-one mentoring dyad. Head, Reiman, and Thies-Sprinthall (1992), for example, suggest optimizing the functions of mentoring by developing a "mentoring mosaic" that taps other resources—a network of secondary mentors—to address shortcomings in the primary mentor-mentee dyad.

Because it is possible for an organization to support numerous mentor-mentee dyads simultaneously, we believe it is important address a potential misconception—that is, macro-mentorship is not necessarily a collection of mentor-mentee dyads. To return to our earlier analogy of the forest as micro/macro display, a forest is, first and foremost, an ecological system.

By contrast, a cluster of trees in a nursery, each in its own potted plant, is neither a system nor a forest. In the same way, an organization that adopts a mentorship program in which mentors are identified and assigned to mentees is not a macro-mentorship. Yet the notion that macro-mentorship involves a summing up of personal mentoring experiences remains inescapable. To respond to the question, "What distinguishes an organization that contains elements of mentoring practice from a macro-mentorship organization?," we need to first turn our attention to the concept of micro/macro displays.

## The Micro/macro Concept Defined and Situated

In this section we offer a more detailed definition of what we mean by the concepts of micro/macro displays and macro-mentorship. We use the concept of micro/macro to illustrate the point that the same activities, such as those involving mentorship, may occur at different scales. If represented graphically, such activity could be "read" at local and global domains by, as it were, adjusting our focal lens. In this paper we make such an adjustment by graphically depicting individual datum points to make phenomena visible and comprehensive at the macro level.

Over the years graphic designers have struggled with the problem of presenting information on a flat sheet of paper. Micro/macro representation is one of several design approaches to this problem whereby one may "escape flatland" and overcome the inherent limitations imposed by a two-dimensional surface (Tufte, 1990). The micro/macro strategy involves the use of graphics, usually in the form of large-scale displays, that employ fine detail permitting both a universal and an intricate reading of objects and phenomena.

The Vietnam Veterans Memorial in Washington, D. C. is an extraordinary example Tufte (1990) offers of this concept: a micro/macro perspective of the names of 58,000 solders engraved in black granite which may be viewed at several distances. At the micro-level, at a mere two or three feet from the wall, the names are clearly identifiable and the experience is profoundly personal. Here it is the stories belonging to and shared among individuals which receives attention. Personal micro meanings or narrative responses of individual soldiers and their former lives are made vivid and meaningful in the presence of loved ones. Farther away, the context

becomes less personal as the arrangement of solders' names begins to coalesce into pattern and texture. From yet an even greater distance, the ordering of names becomes increasingly blurred and the memorial shows its overall shape revealing, in effect, a three-dimensional graph of the distribution of war casualties over time.

From this and other examples of micro/macro displays, three attributes surface that help to define this concept: multivariability, data density, and an interrelated structure. First, micro/macro displays are typically mutivariate so that one may see the interaction of several variables (e.g., time, magnitude, distance) simultaneously. An outcome from such designs is that they invite interesting, higher-order questions about the information presented (Wainer, 1992). This aspect of micro/macro displays validates their use in the present study as an analytical tool. Second, data density involves the accumulation of data points or elements in sufficient numbers so that examination from a distance shows "micro-details mixing into overall pattern" (p. 38). Because the amount of detail used to render each point is a factor in the perception of texture, it is difficult to specify the number of data points that is "sufficient" for a micro/macro reading. Perhaps a more practical test for data density is whether the aggregate of data allows for perception of the array at both local and global levels. Related to this is a third attribute of micro/macro displays: they possess an overall structure of interrelated elements. This facilitates local-global comparisons of the information in a gestaltist demonstration that "the whole is greater than the sum of the parts."

There are many types of graphic representations that can fall under the rubric of "micro/macro" display: a monument (such as the memorial just mentioned earlier); a map of an urban design; and even an aerial photograph of our analogical forest, each pine tree shown in exquisite detail (an actual photograph by Ansel Adams comes to mind).The following discussion on macro-mentorship presents three graphic portrayals of mentoring arrangements that we believe elicit a micro/macro interpretation. The first is a network diagram showing individuals who influenced and were influenced by the Neo-Impressionists. The second is a family tree diagram representing the academic lineage of NCIC members. Finally, we present an organizational

diagram that reveals the "chain-of-command" of the research group known as The SHIP as well as the operational tasking of its members.

Neo-Impressionists: Macro-mentorship as Network Diagram

"The masters, truth to tell, are judged as much by their influence as by their works." (Zola, 1960, p. 160)

The Post-Impressionist movement began in Paris in the mid-1880s at time when the quickened pace of scientific discovery captured the imagination of those in Europe and America. Partly in response to these times and partly in reaction to the transient quality of the Impressionist works coming into vogue, a group of artists began experimenting with a painting style that was both scientific in its conception and permanent in its expression. This group, called the Société des Artistes Indépendants, held their first exhibit in 1884 and, two years later, earned the soubriquet, "Neo-Impressionists" from art critic Félix Fénéon.

The originator of the pointellist style that characterized Neo-Impressionism was Georges Seurat. Yet, like many movements, Neo-Impressionism was the product of many influences. Figure 1, "A Neo-Impressionism network," attempts to depict these influences graphically, showing mentors, peers, and sources of inspiration. Because Neo-Impressionism sprung up at the zenith of the Impressionist movement, some artists like Camille Pissarro painted, at one time or another, in both styles. Further, in some cases painters from both groups may have either studied the work of, or formally studied under, the same mentor. For example, although Seurat formally studied with Lehmann (who was mentored by the master painter Ingres) he was more stylistically influenced by Corot, the mentor of Pissarro (who was mentor to both Gauguin and Cezanne). While Seurat never took on a student, he had ambitions about founding a school with painter Eugène Delacroix serving as his pedagogical role model. Seurat first became aware of Delacroix through the writings of aesthetician Charles Blanc which were also read by van Gogh, Gauguin, and Signac (Herbert, 1991).

What emerges from this account is, from a distant view, the web-like interconnections between artists and art schools. At the micro level we see the solitary efforts of individual painters

and, at the macro level, a network. Here, the lines denoting mentor-mentee dyads are not clearly drawn. Nor is there a clear distinction of what constitutes a mentor. Some were teachers, others were role models, and yet others were friends who provided feedback and encouragement.

Looking at the Neo-Impressionists as a whole, it becomes evident that Seurat was not a mentor in the classic sense. Rather, as the "source" of Neo-Impressionism, he represented one piece of a mentoring mosaic, playing an essential role but not all those needed to sustain the movement:

> Although artists and critics alike regarded Seurat as the inventor and leading artist of Neo-Impressionism, the ebullient Signac was the more effective propagandist for the movement, and Dubois-Pillet was the group's best organizer within the [Société des Artistes] Indépendants (Herbert, 1991, p. 3).

Perhaps more than anyone else, Pissarro served the function of mentor-as-parental-figure: he was roughly 30 years older than the others in the group and frequently acted as arbiter of disputes among its members (Rewald, 1963).

With the death of Dubois-Pillet, who presided over committee meetings of the Indépendants, the movement lost its "organizer" in 1990 (the same year van Gogh died). Seurat died a year later at the age of thirty-one. Yet the Indépendants continued to exhibit annually until 1904, a remarkable longevity when compared to the mere eight years during which the Impressionists exhibited as a group.

Analysis of the Neo-Impressionist movement as macro-mentorship suggests the existence of mentoring functions or roles not normally associated with mentoring. First, there is the Organizer who manages the activity of the group, identifying roles, assigning tasks, and arranging meeting places. A second function is that of Sponsor which, like the role of the same name described by Anderson and Shannon (1988), involves behaviors of protecting, supporting, and promoting. To this list of behaviors one might add recruiting—enlisting new disciples for the cause—and chronicling or passing on the traditions and history of the group to novices. Following Seurat's death this function was carried out by Signac and Fénéon both of whom continued to write

articles in praise of the group's work. Finally, there is the role of Originator, the person from whom a major idea has germinated and been articulated. While mentors in traditional mentor-mentee dyads serve all three functions, it may be impossible for one person to be "all things to all people" where a large group of individuals is concerned.

The Neo-Impressionist artists, we believe, fit the concept of macro-mentorship while maintaining the high degree of individual freedom an artist requires. Each artist chose individual sources of encouragement and growth, who to influence and whom to be influenced by, through a personally constructed mentoring mosaic. Yet they represented more than a group of painters with similar stylistic practices. Instead, their common artistic goals, values and heritage, formed the basis for an interrelated mentoring structure, a type of mentoring network that promoted a living organization bearing close resemblance to community and family.

## NCIC: Macro-mentorship as Family Tree

The National Consortium for Instruction and Cognition (NCIC) is an example of another body of scholars that was not originally set up as a mentoring organization but rather evolved into one. NCIC was initiated by four professors who, as graduate students, shared a suite together during the 1969 AERA conference. After graduating and taking academic positions at different universities, the four continued the practice every year, each typically bringing along their new protégés who would be introduced to their academic "cousins" (i.e., mentees of other founders) and "grandfather" (i.e., the founders' mentor). These mentees graduated, became professors themselves, and invited graduate students of their own to the NCIC suite. In time, NCIC adopted all of the trappings of a formal organization: charter, membership dues, annual banquet, reception, and business meeting. The "NCIC Suite" eventually became the focal point for paper sessions, receptions, informal gatherings and talks by distinguished scholars.

Figure 2, "An academic family tree," shows a graphic depiction of NCIC as a burst of fireworks with each star representing a doctoral graduate. Large stars emanating from a central mentor occasionally explode forming sub-bursts of Ph.D.'s which, in turn, sometimes erupt in a more localized constellation of doctorates. Though designed to depict NCIC as a fireworks

display, the graphic may also be interpreted as an academic "family tree" of the organization. In this micro/macro reading, over 150 "leaves" are arranged on branches so that "detail culminates into a large coherent structure" (Tufte, 1990, p. 37) revealing both intellectual relationship and parental lineage over time. While like other micro/macro examples the display invites local comparisons, it was intended to be purely descriptive, not to show which mentors are most productive. Its chief value is as a graphic representation of mentoring dyads that allows us to view differently the mentoring roles and functions of an organization.

One realization about NCIC that becomes apparent through figure 2 is that its clear intellectual lineage sets it distinctly apart from merely a "community of scholars" or similar academic body. Though some members regard this notion of "lineage" more or less seriously than others, it is the source of a shared history that systematically bonds the group. It also creates a context of family in which members can find acceptance and temporarily escape from the more stoical aspects of the academy. This is an especially valuable experience for graduate students who can encounter peer-like fellowship with established academics. In this setting of scholarship without pretension, graduate students are exposed to role models with whom they can identify. As a result of this exposure,"mentees" can more easily imagine themselves becoming successful future academics.

An unexpected, but not altogether surprising, outcome of the mindset and support that has charcterized NCIC is its academic productivity. West (1994) compared NCIC with the 25 most productive educational psychology departments in the United States (N=414) using three criteria: ERIC documents, ERIC journal articles, and citations.The 25 departments were selected on the basis of another study (West & Rhee, 1994) that ranked departments according to several standards. To keep the NCIC population unbiased, West excluded the organization's founders, thereby limiting the sample (N=33) to include journeyperson academics only. His study concluded that "NCIC members have written substantially more articles than faculty in the highly ranked departments of educational psychology but have produced fewer ERIC documents and have been cited less" (p. 6).

Returning to the subject of the NCIC family tree, there are a number of reasons why it is important for mentors and mentees to know their academic lineage or tradition. Today there is much emphasis on uncovering (and recovering) one's cultural family roots (Banks, 1994). By contrast, virtually no attention is given to academic roots, even within educational research. Typically one does not consider doctoral studies as an inculcation into a particular academic culture or tradition. However, there are cases where an intensive inculcation does occur, such as Taliesin in Arizona where the culture of Frank Lloyd Wright's architectural school predominates.

Another argument for knowing one's academic lineage is that protégés often become mentors. At that time they will need to know their academic heritage so that they can pass it along to their new protégés. This knowledge directly benefits graduate students in "staying the course" during their journey towards earning the doctoral degree. Moreover, the prospect of extending the lineage by being the start of a new branch from which one's own doctoral students spring, is a tremendous motivator to actively engage in the mentoring process.

## The SHIP: Macro-mentorship as Organizational Chart

Twenty years ago, a paramilitary organization operated within the educational psychology department of an American university. It bore the formal name, The Laboratory for the Study of Human Intellectual Processes (LSHIP), but was more commonly called "the Ship" by its members. The Ship was, in a sense, itself an experiment—could a military-style command and operational structure be used as an organizational "template" for a completely different population, in this case graduate students? Well-defined organizational structures such as those of the military are particularly useful for achieving clear-cut objectives and for training large number of persons. These advantages served the purposes of the Ship well: to produce research and train researchers.

Like the military, the Ship had a rigid rank structure. As the Ship's founder explains, rank, and the privileges associated with it, was based on productivity and service:

> The Ship was an early attempt to implement the lessons I was acquiring from reading military biography—also, people like a hierarchy because they can actually see concrete progress as time passes. Rank on the Ship was tied directly to pubs and paper, which made the Ship a research organization. The difference between a Chief (no pubs, but a year's service) and a Captain was six pubs or papers. No other way to do it. Commodore was the highest rank for students, and was marked by a private office, access to a secretary, and command of as many as 20 other grad students, plus the right to use all Ship's resources for their own research. (Anonymous, personal communication, February 17, 1995)

The rank structure of the Ship is graphically represented in its organizational chart (see Figure 3, "The Ship's organizational chart"). As the figure shows, The Ship was organized into departments and divisions, each responsible for performing a particular research-related function such as "Materials Production" or "Subject Procurement." In most instances one person was assigned to a given function. Besides these persons, dozens of students enrolled in classes taught by Ship officers/graduate students also enlisted on a "cruise" (i.e., an academic year of research activities). At its height, the Ship had approximately 110 persons participating, although there were never any more than approximately 30 officially assigned to the ship (i.e., graduate students in educational psychology).

As suggested earlier, an inherent advantage of the Ship's organization was its potential for fulfilling the primary mission of training graduate students in the craft of experimental research. Once aboard the Ship, junior personnel rarely saw "the Admiral" (i.e., the professor in charge). Usually they only received a set of orders assigning them to the head of a particular division where they worked at producing materials, running subjects, and so forth, until they were "transferred" to another division. Each transfer represented a stage in the development of these future researchers. At every stage, they were under the tutelage of advanced graduate students who, according to the Ship's founder/mentor, taught them the tools and techniques of empirical research:

> [The Ship] was the paragon of the apprenticeship system. A warm, close family of people dedicated to training others. Everyone became a "mentor" of others. I interacted with the upper ranks, they interacted with the ones below and so on down. One of the requirements of rank was to actively train those below in the hierarchy. From their first day on the Ship, students worked in one or more Research Groups, and they stayed in such groups until their discharge. The Articles of Control specified how Research groups could be formed, and the rank system assured that no Group could exist without proper supervision—only at the rank of Captain and above could they be formed independently. Senior member of a Group taught junior members and I worked mainly with people from Commander upward. I was the head of some 20 Research Groups at any given time. At one point, the Commodores had a total of about 15 Independent groups running. (Anonymous, personal communication, July 23, 1995).

As a mentoring exemplar, the Ship is unusual given that in a typical mentoring arrangement the role of "teacher" involves face-to-face guidance of the mentee. Yet the apprenticeship-like strategy of the Ship worked well as a means for instilling the self-image among graduate students that they themselves were developing mentors. Little, if any, mention is made within the mentoring literature on the beneficial effects of including, as part of the mentoring process, opportunities for mentees to realize their potential as future mentors. The Ship, however, was structured so that the authority of mentorship was delegated to many rather than consolidated by a few.

Labor was also distributed aboard the Ship as an efficient means for accomplishing the work of research. The rewards of privileges and public recognition given to those who were productive researchers constituted a great motivating force. On a weekly basis the Ship published a newsletter, mailed to about 100 persons nationwide, which listed all promotions, publications, and papers generated. Consequently, the Ship was highly successful in terms of its research activity. In the course of its five-year existence, the Ship completed approximately 70 studies (involving over 7000 subjects) virtually all of which were published in refereed journals or

presented at national conferences. Ironically, during its lifetime LSHIP was never recognized as an official organization within the university.

A sociocultural viewpoint of mentorship, introduced earlier, contends that three conditions should be met for successful mentorship to occur: an interpersonal attraction between mentor and mentee; appropriate kinds of joint activity for them to participate in; and conducive settings for these activities to take place (Gallimore, Tharp, & John-Steiner, 1992). For example, a degree of affect in the mentor-mentee relationship is necessary to initiate a mentoring arrangement and maintain it in its early stages. Further, just as important are the kinds of joint activities the dyad engages in determining the beneficial outcome of the mentorship (Diamond & Mullen, 1996). For instance, in the context of goal-directed everyday activities with others, such as helping to prepare, run, and analyze a research study, Ship personnel developed confidence and self-esteem. In addition to the need for participation in joint activities, Gallimore, Tharp, and John-Steiner (1992) also stress the importance of the activity setting described as "the who, what, when, where, and whys of everyday life in school, home, community, and workplace . . . features of personnel, occasion, motivations and meanings, goals, places, and times . . ." (p. 11).

With its ranks, ceremonies, insignias, and special language based on a nautical metaphor, the Ship provided a rich cultural context for its macro-mentorship activity to bear fruit. The culture of the Ship served as the framework for the teaching, recognition, modeling, nurturing, and friendship that should ideally occur in an effective mentorship. Culture, professionally relevant activity, and a founder with vision and organizational talent were all necessary elements to the success of the Ship. When one considers the many factors and circumstances needed to form and maintain a viable research organization like the Ship, the question comes to mind, "How well does this organization serve as a 'formula' for creating similar macro-mentorships?" A cautious reply by the Ship's founder is offered:

> The Ship was a one-of-a-kind phenomenon. You can teach people the technical aspects of a craft, but the creativity part of a product is unteachable. It is as Hemingway put it when he taught one summer at Harvard: 'I can teach you how to write a good sentence, but I have no idea how to teach you to write a good story.' Something like the Ship is also unique in the sense that everything has to be just right for it to exist and grow. Right environment, right age, right students, enough time, and so on . . . . However, I think it could be done if one had resources and freedom to do it. With enough grant money and access to facilities it could be done. But starting with nothing and ending up with 100+ people doing research within a command framework, that is probably a once in a lifetime event. (Anonymous, personal communication, August 16, 1995)

While it may be perhaps impossible to recreate an organization like the Ship, there may be some aspects of this and the other macro-mentorships examined that can be favorably applied to traditional mentoring arrangements. We next explore such possibilities.

## Learning from Macro-mentorships

Surveying our examples of macro-mentorship, we are struck by the many characteristics they share in common. For instance, in the case of the Neo-Impressionists and the Ship, a number of mentorship functions were carried out, not by one, but by several different members. Although one person was source, organizer, and leader, many taught and served as role models. For both the Ship and NCIC, a sense of tradition, lineage, and family arose seemingly overnight giving rise to the lived stories, personal contacts, and remembrances of its members. One can ask, "What benefits can these mutual and distinct attributes among macro-mentorships bring to mentorships in everyday human activities, particularly those within educational realms?"

Within the scope of this paper, several recommendations for successful mentorship can be extracted from our discussion. First, macro-mentorships are often designed to incorporate certain roles or archetypes as a strategy to enhance their viability. These roles include but are not limited to Originator, Sponsor, and Organizer. In many cases the functions subsumed under these headings are identical or similar to the components of mentorship suggested by others. On the

other hand, some roles such as Organizer, and some functions like recruiting and chronicling, appear to be novel entries to the list of mentorship attributes. These raise exciting possibilities for new kinds of mentorship-related activity. Advanced mentees, for instance, or newly socialized teacher educator-researchers, might record impressions of their own mentoring relationships within academia in anticipation of their own mentoring opportunities (Mullen & Dalton, 1996). But whether these attributes are well-established or new, they underscore the notion that mentorship is a multi-dimensional task entailing more than simply advising students. Further study may reveal still more aspects of mentoring that are important to its outcome: clarity of philosophical perspectives within a discipline; the ability to communicate these perspectives to a wide audience of prospective mentees; and the administration of a well articulated set of goals, objectives, and tasks for the mentee to engage in.

This paper also recognizes that there are certain characteristics that may be useful, if not necessary, for establishing and sustaining mentoring organizations. Among these characteristics, organization and recruitment seem paramount—skills even individual mentors not interested in building a large organization can profitably employ. It takes time to communicate, to define and promote one's vision, and to sharpen a line of research. Effective organization allows one to do more with less time. The key to organizational success is the appropriate delegation of mentorship tasks which in part requires allowing mentees to make mistakes. Otherwise, the number of mentees one can actively guide will be restricted.

A second recommendation is that the academic lineage of mentors should be communicated to mentees so that they have a sense of place within the history of the discipline. This sense of place has practical consequences in the daily toil of academe. Mentees or novices often lose sight of broad academic aims when absorbed in specific academic tasks (e.g., the literature review of a dissertation). Appreciation for one's academic family provides an opening for seeing oneself within a broader, historical context. Mundane tasks can then be seen merely as momentary obstacles on the path towards putting one's mark on a discipline. Seeing oneself as a contributor to the larger effort of the academic community can sometimes have a transformative effect, giving

one the brief experience of being, as George Bernard Shaw put it, "a force of nature instead of a feverish little clod of ailments and grievances". This larger effort may take one of several forms. In line with the examples of the Ship and the Neo-Impressionists, mentors may assign specific roles to graduate students that either capitalize on recognized talents or fulfill a need of the group.

Third, mentors should pay careful attention to both the types of activities mentees perform as well as the sociocultural setting in which these activities occur. Preferably, tasks encouraged, constructed, or prescribed by mentors should involve joint participation of the mentor and mentee. Further, such activities should facilitate effective transfer of research skills to real-world tasks or to performances of actual academic tasks in authentic settings. A beneficial by-product from this approach is that mentees are more likely to be motivated when they perceive a mentorship activity to be professionally relevant. Additionally, when the mentee is asked to perform tasks that are directly related to professional outcomes there is less room for the possibility of academic exploitation, not to mention misuse of time and resources.

## Implications for Mentoring Research and Practice

In this paper we have examined macro-mentorships that have had a transformative effect on the lives of artists and academics. We have assumed that macro-mentorships are qualitatively different in some significant ways from mentoring on a one-to-one level. Our departure from the local representation of mentoring to a global perspective has been in some ways like that of space travel: We must eventually "return home" to the local setting where everyday mentoring happens.

One implication of our research is that macro perspectives can be generated for the purpose of mobilizing aspects of a successful mentoring journey. The local context of mentorship can benefit from the realization of mentoring possibilities inherent in macro-mentorship structures. University structures themselves have a long history of socializing graduate students in the production of particular images of mentoring practice. Because even university structures and disciplines bear distinctive cultural histories (Martin, 1996), it may prove useful to generate macro perspectives for studies of these as well.

A second implication is that graphic concepts can provide reflective research tools to influence phenomenological inquiry into non-graphic arenas such as mentorship theory and practice. Graphic representation of data has been a long standing feature in quantitative studies as a means for researchers to interpret and understand complex, multivariate information. Only recently have the possibilities of using graphic forms of inquiry, such as the use of collage, begun to emerge in qualitative research (Mullen & Dalton, 1996).

As a final point, we need to reinforce that effective mentorship in no way requires establishment of a formal organizational structure. Our exemplars are not intended to suggest that mentoring on a grand scale can be achieved with the strategies of a multi-level marketing scheme. Many successful mentors prefer to work with one mentee, or just a few, at a time. Yet, this is the irony of the micro/macro dynamic—while a comprehensive view of mentorship may only be available at the macro level, its benefits can only be fully realized at the local level of everyday mentoring experiences.

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Figure Captions

Figure 1. Network diagram representing persons who were major influences on or who were influenced by the Neo-Impressionist painters.

Figure 2. Diagram of mentor-mentee relationships among members of the National Consortium for Instruction and Cognition (NCIC).

Figure 3. Operational chain-of-command of the Laboratory for the Study of Human Intellectual Processes (LSHIP).

# A Neo-Impressionism Network

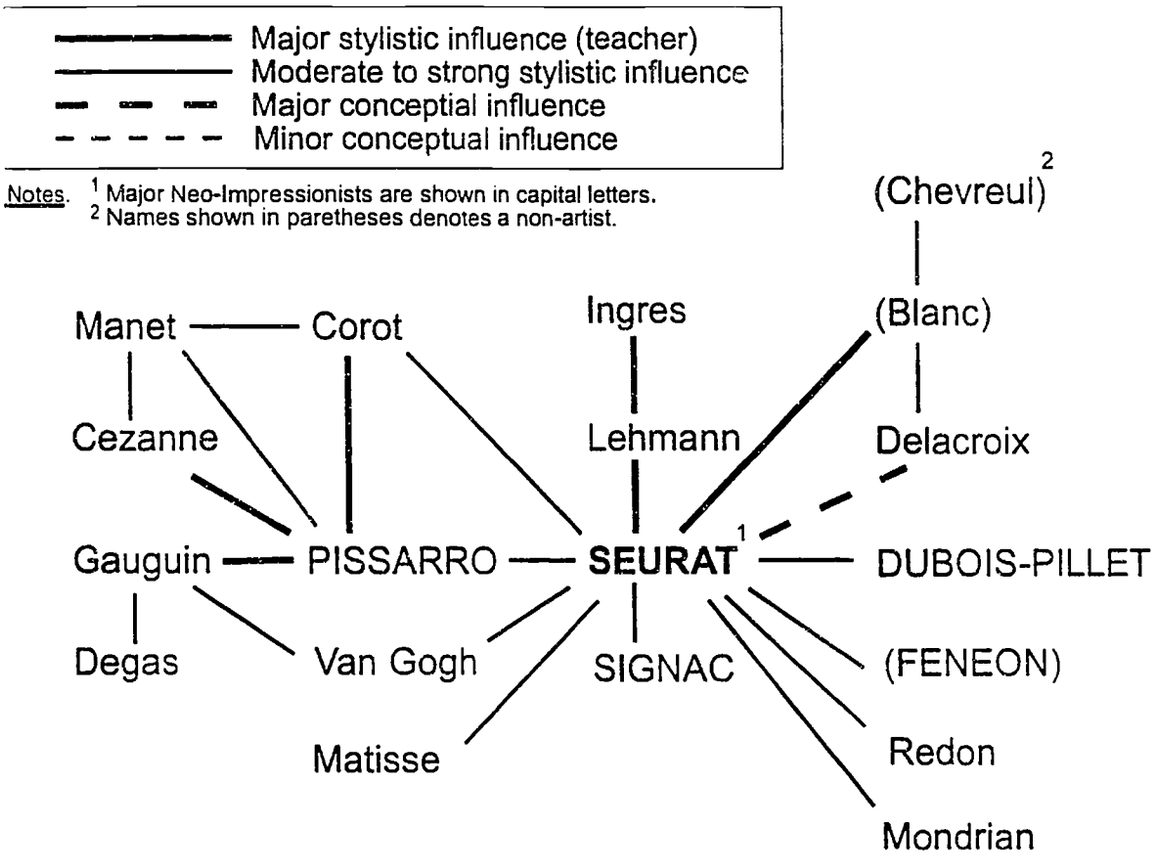


Figure 1. Network diagram representing persons who were major influences on or who were influenced by the Neo-Impressionist painters.

# NCIC's Academic Family Tree

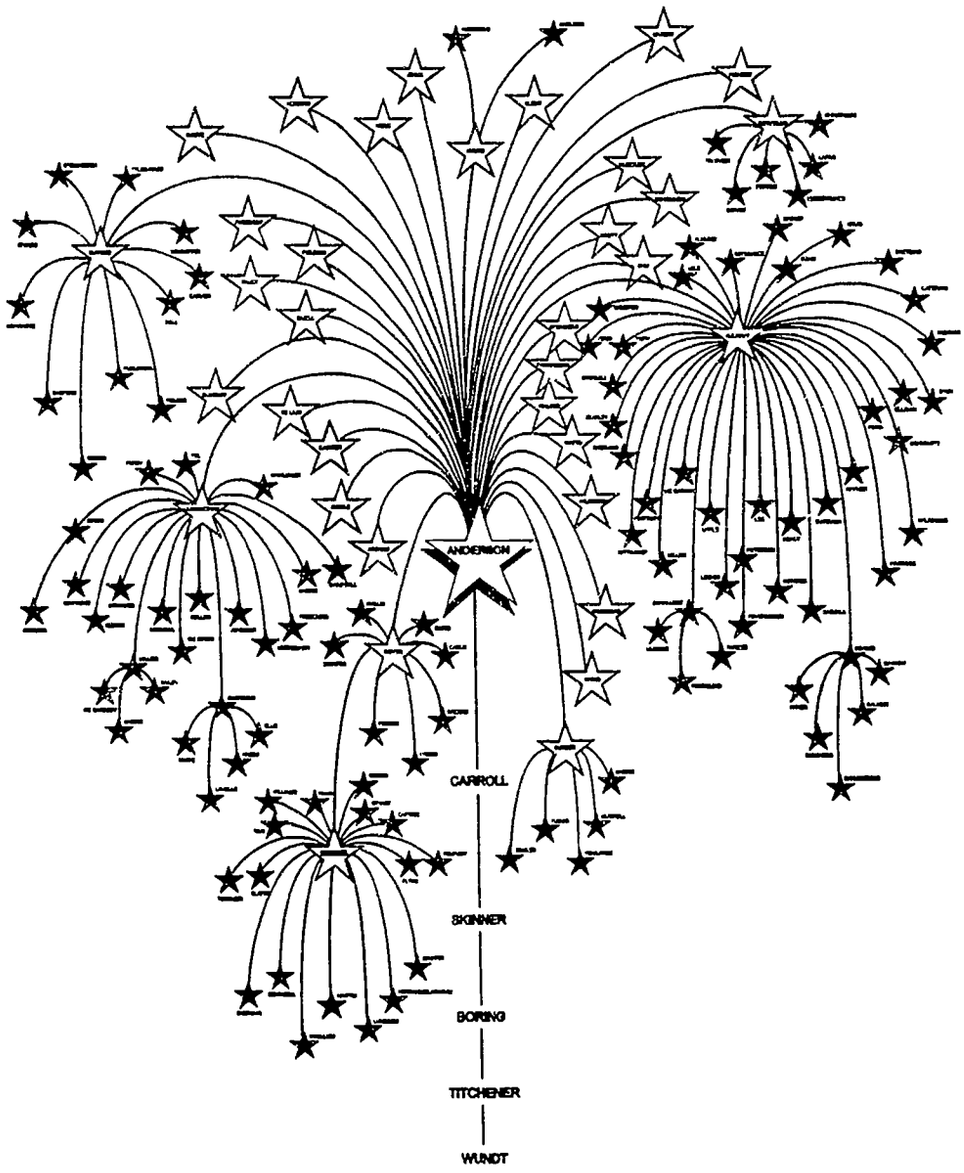


Figure 2. Diagram of mentor-mentee relationships among members of the National Consortium for Instruction and Cognition (NCIC).

# The Ship's Organizational Chart

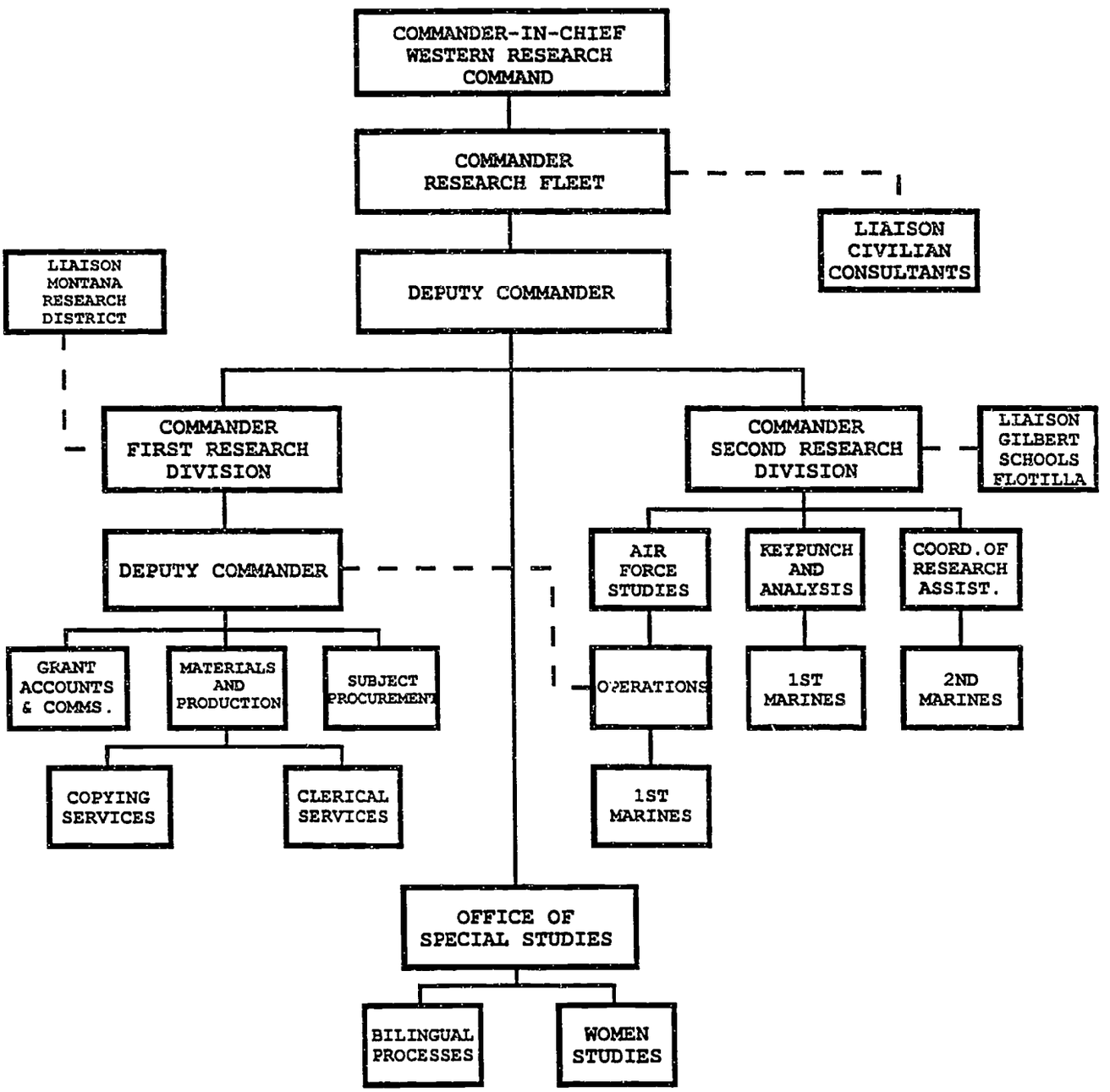


Figure 3. Operational chain-of-command of the Laboratory for the Study of Human Intellectual Processes (LSHIP)