CHAPTER I

INTRODUCTION

Writing is recognized as an essential skill necessary for developing students’ critical thinking skills. In the academic setting, students are often asked to write papers, essays, take written exams and demonstrate their skills in analysis and synthesis in written discourse (Sternglass, 1983). In a broader sense, writing is equipment for living, since it presents one of the best ways of meaning making and gives writers an opportunity to create a lasting archive of their thoughts and ideas (Nickerson, Perkins, & Smith, 1985).

Among all modes of written discourse, argumentative writing is one of the most difficult (Young, 1987). Despite the fact that “of the four conventional forms of spoken and written discourse—exposition, argumentation, description, and narration—we indulge in, or are exposed to, argumentation most often” (Corbett, 1971, 41), argumentative discourse and the teaching of written argumentation have been “pushed to the periphery of composition studies” (Young, 1987, p. 28). However, the importance of successful argumentation appears to be undeniable: due to the evaluative nature of the human language (Britton, 1978), it may be suggested that certain elements of written argumentation are manifest in any other mode of discourse.

The current-traditional paradigm, which dominated the discipline for the last century, has failed to provide a cohesive theoretical and practical framework for the teaching of composing in general and argumentation in particular. With its emphasis on the final product, the current-traditional paradigm does not address the deep underlying processes involved in the production of the written discourse. Though the final product remains the ultimate goal of the teaching of writing, it is currently acknowledged that careful and systematic attention should be devoted to all stages of the writing process. The aforementioned change has occurred over the last thirty years and resulted in examination of various phases of composing. The initial stage of writing, rhetorical invention, has acquired a renewed attention (Harrington, Keith, Tripp, & Woods, 1981; Larson, 1992; Lauer, 1984; Williams, 1994).
Though it is becoming more and more obvious that rhetorical invention as a stage of genesis of ideas is a critical pre-requisite for a successful piece of written discourse, “the exclusion of invention as a subdiscipline of the art” within the current-traditional paradigm (Young, 1978) has led to controversy whether the formal instruction in the art of rhetorical invention leads to the improvement of the quality of the discourse.

During the last thirty years, numerous theories of rhetorical invention have emerged. Though they differ greatly, two major categories will be distinguished for the purpose of the present study: structured and non-structured. With the assumption that writing is intentional, the first group of strategies of rhetorical invention aims to activate the writers’ consciousness and their systematic exploration of the subject. The second group of strategies, on the other hand, originated in the belief that composing is a spontaneous process. With this approach, writers’ imagination and subconsciousness are sufficient for composing written discourse.

**Research Questions**

Each type of strategies of rhetorical invention appears to have certain advantages. It may be hypothesized, however, that a particular rhetorical strategy does not have an absolute value and has to be considered within the framework of a particular rhetorical situation, i.e. the mode of discourse to be produced, potential audience, etc. These considerations ordered the following research questions for the present study:

1. Is there an overall improvement of the quality of written argumentation produced by community college student writers after instruction in structured and non-structured strategies of rhetorical invention?
2. Are college students more likely to use structured or non-structured strategies of rhetorical invention after being taught both?
3. Is there a relationship between the nature of rhetorical invention used by a student writer spontaneously and the nature of rhetorical invention after instruction?
4. Is there a relationship between the type of rhetorical invention and the quality of the final drafts of written argumentation produced by college student writers?
Though investigation of the role of rhetorical invention in the production of written discourse involves a broader spectrum of questions, answering the above questions is expected to contribute to understanding of the effects of particular invention strategies on written argumentative discourse produced by college student writers.

**Justification for the Study**

The emerging paradigm in the teaching of composition requires the change in the direction of research about the nature of the writing process and its stages. Freedman (1987) suggests that there exists an urgent need for the exploration of “the explicit linking of strategies for processing writing with the written product” (p. 18). Pope and Prater (1990) indicate, “this call has merit because it asks us to look closely at the relationship between the use of certain writing processes and the resulting products” (p. 64). The aim of the present study, then, is to utilize qualitative and quantitative research methodology and explore whether instruction in strategies of rhetorical invention is likely to contribute to the improvement of the quality of college students’ written argumentative discourse.

The need for studies on rhetorical invention and its role in the production of written discourse has been articulated in numerous studies on the writing process (Pope & Prater, 1990). Despite the fact that “interest in invention has escalated to the point where many textbooks offer substantial sections entitled “invention”, “prewriting”, or “planning.’” (Lauer, 1984, p. 127), teaching of invention strategies in the writing curriculum is often based on intuitive assumptions (Williams, 1989). Rhetorical invention is often recognized as “the basic skill for basic writers” (Thorne, 1993). However, as noted by Corbett (1986), “[the] preoccupation with the discovery process has not yet equaled the interest of contemporary scholars in style” (p. 43). The importance of successful completion of the initial stage of the writing process has been suggested by a number of researchers on written composing. Nearly all of the most recent textbooks used for instructional purposes in college composition classrooms contain at least information about strategies of rhetorical invention available to the students at the initial phase of the writing process (Barnet, Berman, Burto, & Cain, 1997;
Kennedy, Kennedy, & Holladay, 1993; Rackham & Slaughter, 1995). However, only a few studies provide insight into the importance of invention strategies for college students.

Furthermore, there is little empirical evidence to support the hypothesis that writers’ knowledge and utilization of different strategies of rhetorical invention improve students’ writing performance. Formal instruction in the strategies of rhetorical invention, underprivileged for over two centuries, and its effects on the quality of the produced written discourse remain one of the most controversial and challenging areas of composition research. In his analysis of the history of the problem, Moss (1986) refers to the materials of the Rhetoric Project sponsored by the National Endowment for the Humanities and indicates that these materials

Point to the importance of [rhetorical] invention in preparing the way for rational decisions, saying that ‘rhetorical invention should be restored to a position of centrality in theory and practice.’ The concepts and strategies for analyzing the problems, discovering and defining issues, developing lines of argument or proofs, and assessing and evaluating propositions are all part of [rhetorical] invention. The authors add that “this branch of rhetoric has been largely neglected since the eighteenth century when theorists influenced by revolutions in science and philosophy dismissed inventio as trivial on the assumption that a single methodology—namely the new science—should be used by sensible people in all kinds of investigations and deliberations. (p. 9-10)

In addition, consensus has not been reached about the effectiveness of various invention strategies for different modes of written discourse. The role of invention strategies may be more illustrative in argumentation than other modes of written discourse: as Faigley, Cherry, Jolliffe, & Skinner (1985) point out, writers generally do not seem impeded while writing a narrative, “but more complex tasks, such as persuasive tasks, proved to be very difficult” (p. 31). It appears that the effectiveness of the strategies of rhetorical invention may vary as a function of the nature of discourse as well as the students’ knowledge of the discourse plans appropriate for a particular mode.
Results of the study conducted by Matsuhashi (1981) suggest that students demonstrate higher level of performance when they have knowledge of the scripts for the discourse they strive to produce. Due to extensive knowledge of these scripts for personal narratives, students perform better when they engage in the production of this mode of written discourse. Argumentative writing, on the other hand, is identified as more difficult, since students are likely to have limited knowledge of the scripts appropriate for written argumentation.

The studies conducted by Rumelhart (1980) and Stein and Glenn (1979) revealed similar results. It was reported that in those cases when students have limited knowledge of scripts (e.g. in argumentative writing), they feel anxious and much less confident while approaching the writing task. In his discussion of discourse plans, Williams (1989) refers to the study conducted by Flower and Hayes (1981) and indicates that the researchers make a similar suggestion, “arguing that competent writing develops out of generalized writing plans, perhaps in the form of a story grammar” (p. 37). It is logical to assume that internalized scripts result from students’ exposure to a particular mode of discourse and analysis of its properties. If this assumption is true, formal teaching of rhetorical invention is of less importance for those writers who possess extensive knowledge of the scripts. On the other hand, “ideas (concepts, propositions) may have to be rearranged and presented in a different order from the one in which they were recovered” (Piolat & Roussey, 1996, p. 112). Since they are not represented in a linear and sequential format, the researchers indicate, a writer may still need plans and set goals while engaged in composing.

Furthermore, as it has been acknowledged, written argumentation is marginalized in the academic curriculum despite its obvious importance:

Most subjects can be given either expository or persuasive treatment, but perhaps some lend themselves more readily to one kind than the other. The principles of mathematics, the laws of physics and chemistry, the characteristics of minerals and geological formations, weather conditions, the forms of plant and animal life, human physiology—all those subjects and many more generally seem more suited to expository discourse than to persuasive discourse. But most matters for which humans are clearly responsible—the economy, consumer goods, social services,
technology, medicine, education, international relations, entertainment, the arts—seem at least as well suited to persuasion as to exposition, and perhaps better suited. (Bramer, 1985, p. 146)

The teaching of written argumentation implies teaching students how to unite “wisdom and eloquence” (Kneupper & Anderson, 1980) and is critical for the development of writing ability and critical thinking skills. According to Knoblauch and Brannon (1984), “all writing entails making choices about what to say (and therefore what to leave out) as well as where to say it. Since any text could have been shaped otherwise, it’s “argumentative” in the system of choices it represents as correct and sufficient: it argues its way of looking at a subject (p. 27).

Several assumptions can be made on the basis of the previous discussion. First, the role of invention strategies is different for those students who have extensive knowledge of the scripts of written argumentation and those who lack such knowledge. Second, knowledge of the scripts may compensate for limited knowledge of invention strategies among college students. And finally, knowledge of invention strategies may compensate for lack of knowledge of the scripts for argumentative discourse. Addressing these assumptions appears to contribute to objective assessment of the role of invention strategies in the process of argumentative writing of the college students.

Faigley, Cherry, Jolliffe, and Skinner (1985) point out that “we know of no study of any method of teaching rhetorical invention that does not claim success” (p. 40). However, the relative effectiveness of various strategies of rhetorical invention for written argumentative discourse produced by college writers has not been subjected to a thorough investigation. “Writing teachers have offered numerous methods of generating ideas—including the use of writing itself as a method of discovering ideas (e.g., Murray, 1978)—but very few studies have considered this subprocess in detail” (Faigley, 1985, p. 28). Thus, there is a recognized need for a study examining the effectiveness of the particular strategies of rhetorical invention for written argumentative discourse produced by college writers.
Definitions of Terms.

For the present study, the following terms are defined:

**Argumentative discourse** refers to “using discourse to influence the intensity of an audience’s adherence to certain theses” (Perelman & Olbrechts-Tyteca, 1969, p. 66).

**Composing (writing)** is used to refer to “a technology that occurs in manuscript, print, or computer. [It is] one type of encoding that places thought in linear form” (Welch, 1990, p.170)

**Composition** refers to “the ability of students to select, arrange, and develop ideas in written form directed toward a particular audience as measured by the evaluation criteria of the writing sample” (Ebbert, 1980, p. 2).

**Current-traditional paradigm** is a term coined by Fogarty (1959). It refers to “a system of widely shared values, beliefs, and methods that determine the nature and conduct of the discipline” (Young, 1978, 29).

**Enthymeme** is “[a] form of rational appeal … which … deduces a conclusion from a general premise” (Bizzell & Herzberg, 1990, p. 4).

**Freewriting** refers to “writing all ideas one can think of in relation to a given topic” (Hillocks, 1986, p. 177)

**Larson’s Heuristic** is a structured strategy of rhetorical invention designed as a series of questions based on Aristotle’s *topoi*

**Memory Search** is a non-structured strategy of rhetorical invention that involves presenting a stimulus word, asking writers to construct chains of associations to the stimulus, and including the response terms in their compositions.

**Neo-classical invention** is a term used to refer to a heuristic procedure based on the adaptation of classical rhetoric and classical invention.

**Non-structured strategies of rhetorical invention** is a term used to refer to those strategies of rhetorical invention which do not provide a writer with a pre-designed procedure for inquiry.
Rhetoric refers to “a linguistic activity carried out within a social context …that makes meaning as well as transmits it” (Young, 1987, p. 1).

Pentadic invention (Burke’s Pentad) is “a heuristic procedure of five topics necessary to generate any subject matter about any object of discourse” (Ebbert, 1980, p. 4). Burke’s Pentad includes agent, action, instrumentality, recipient, and cause (Hillocks, 1986).

Planning “refers to any oral and written establishment of elements and parameters before or during a discursive formation” (Emig, 1971, p. 39).

Prewriting refers to “that part of the writing process that extends from the time a writer begins to perceive selectively certain features of his inner and/or outer environment with a view to writing about them-usually at the instigation of a stimulus-to the time when he first puts words or phrases on paper elucidating that perception” (Emig, 1971, p. 39).

Rhetorical invention refers “to discovery, either deliberate or accidental, of a subject or an idea by intellect or imagination” (Encyclopedia of Rhetoric, 1996, p. 350). Rhetorical invention is believed to “encompass a variety of approaches thought to be useful in generating and/or processing the substance of a piece of writing” (Hillocks, 1986, p. 169). It is “a method or suggestions for proceeding in a complex, nonroutine situations, the general purpose being the use of what is known to go beyond what is not known” (Encyclopedia of Rhetoric, 1996, p. 351).

Rhetorical situation is a three-dimensional construct that, “has three components; an exigency marked by a sense of urgency in the mind of the would-be speaker or writer, which initiates the rhetorical process; an appropriate audience, i.e., an audience that has the ability to eliminate or mitigate the exigency; and a set of constrains that affect the choices of writer or speaker and audience, e.g. the constrains imposed by working within a particular rhetorical genre” (Bitzer, 1966, cited in Young, 1987, p. 13).

Structured strategies of rhetorical invention (heuristics) is a term used to refer to the “explicit plans for analyzing and searching which focus attention, guide reason, stimulate memory and encourage intuition” (Young, 1976, p. 1).
**Tagmemic invention** is a heuristic procedure “which asks students to view phenomena from the perspectives of particle, wave, and field and in terms of contrastive features, variation, and distribution” (Hillocks, 1986, p. 178).

**Topoi** is a term used to refer to “the sets of topics-resources, seats, places, or haunts of effective arguments including lines of reasoning, types of evidence, and the appeals to the audience” (Encyclopedia of Rhetoric, 1996).

**Delimitations of the Study**

The study was limited to the investigation of one specific part of the writing process, namely, the stage of rhetorical invention and its effects on the final drafts of students’ written discourse. Among all strategies of rhetorical invention, two most contrastive were singled out: freewriting and (neo) classical rhetorical invention. The primary criterion for the selection was determined by their status in the contemporary composition instruction. The result of this study are not intended to be generalized beyond these two particular strategies of rhetorical invention.

The relative effectiveness of the above strategies of rhetorical invention was examined for one mode of written discourse, written argumentation. The differences among discourse modes condition different needs of student writers engaged in composing of different modes of written discourse. Therefore, the results of this study should not be applied to other modes of written discourse, e.g., narrative or expository writing.

The population of interest consisted of college students enrolled in English 112 at the New River Community College, Dublin, Virginia. Writing performance is presumed to vary as a function of many individual and instructional characteristics, including the students’ age, their general knowledge of the subject and the world. Thus, the findings of this study do not claim validity beyond the population of interest. Specifically, they should not be used to guide instructional practices within pre-college academic environment unless a replication study is conducted to test the degree of generalizability of the results of the present research.
Limitations of the Study

The nature of this study determined the degree of generalizability of its results. First, the study was limited to the examination of the writing processes among community college students. Second, this study was designed to investigate a particular mode of written discourse produced by the specified population. Namely, the study was aimed to explore written argumentation. Next, the primary research questions of this study were concerned with relative effectiveness of two particular strategies of rhetorical invention. These two strategies represented the two contrastive clusters among all strategies available to writers at the initial stage of rhetorical invention. Specifically, the researcher attempted to determine whether a structured strategy of rhetorical invention (Larson’s Heuristic) was more effective than a non-structured strategy (freewriting).

These considerations impose constraints on the degree of generalizability of the findings. First, the results of this study should not be assumed valid for any other population than the community college students. Second, additional research is needed to determine whether the findings of this remain valid for other modes of written discourse, e.g., expressive writing, expository writing, etc. Next, the results of this study apply to the specified strategies of rhetorical invention.

Another limitation of this study was that the variable of students’ preexisting knowledge of the writing process and their computer skills could confound the results of the study and present a threat to its internal validity. In order to minimize the influence of this extraneous variable, the subjects were asked to perform various in-class assignments using word processors. This minimized the degree to which the pretest and posttest conditions could affect the results of the study.

The effects of environmental (ecological) variables such as light, noise, and temperature were controlled for by means of elimination: the aforementioned variables were held constant. The writing prompts for the pretest and posttest of the study were given in the same classroom. Instruction in both freewriting and Larson’s Heuristic was delivered in a room equipped with word processors and a printer, thus allowing students to approximate the conditions of both pretest and posttest. Students who were given the
pretest writing prompt at 8 a.m. were given a writing prompt for the posttest at 8 a.m. after the lapse of three weeks.

Other aspects of internal validity were addressed in the following way. As it is commonly believed, the writing performance may vary as a function of the students’ knowledge of the mode of discourse and availability of the scripts for its composing. Since many students had no prior experience in written argumentation as a mode of writing, there was a need to provide discourse analysis as it applied to written argumentation. Instruction in the nature of written argumentation took place simultaneously both during the segment of instruction in freewriting and Larson’s Heuristic. In this study it did not appear feasible to minimize the effect of maturation as it applied to students’ knowledge of particular scripts for written argumentation, which occurred within the three-week period of time.

Though it was possible to carry out instruction in freewriting without students’ exposure to written argumentative discourse, elements of discourse analysis were included in both segments of instruction in order to decrease its confounding effect in the segment on Larson’s Heuristic. Inductive instruction in the latter did not appear possible. Students read two essays representing argumentative discourse within each of the two segments of the study. The handouts were provided by the instructor and were assigned for students’ homework. Every class session within the segment on freewriting and Larson’s Heuristic began with an exercise on application of a strategy to students’ written argumentation. This was followed by discussion of the features present in the handout that had been previously assigned.

Another potential threat to the internal validity of the results of the study is referred to as general maturation. Pedhazur & Schmelkin (1991) define the term as follows:

Maturation refers to changes that people being studied undergo with the passage of time, including growing older, gaining experience, becoming tired, hungry, and the like. The concern is that responses (e.g., learning, motivation, aggression, concentration) attributed to the treatments may be, in part or wholly, due to such
maturational processes. It is also possible for maturation to interact with treatments. (p. 225)

Since the present research study was designed to take place during three weeks of the semester, it was not likely that the extraneous variable of the subjects’ maturation would present a serious threat to the validity of the results of the study. Students’ age and their life experience were not likely to change dramatically during the time of the study. However, to eliminate the potential effect of the variable, the researcher addressed this issue during the focus group discussions at the final stage of the study.

Though it was suggested that a single pretest and posttest theme is not an adequate measure of writing ability (Braddlock, Lloyd-Jones, & Schoer, 1963), the assessment of effectiveness of Larson’s Heuristic and freewriting for the college students’ written argumentation was based on the scores obtained on pretest and posttest. This appeared to be an adequate countermeasure against the potential threat of testing. This extraneous variable is defined as follows:

> When people are measured several times on the same variable, their performance may be affected by, among other things, practice, memory of earlier responses, sensitization and/or conjectures regarding the purpose of the research and the expectations of the researcher. (Pedhazur & Schmelkin, 1991, p.225)

Though pretest-posttest design does not guarantee minimization of the effect of testing, the researcher addressed the issue in the following way. Student writers submitted the pretest argumentative essays (D1) but received no comments or feedback on the degree of their success until the essays within Sample 2 were elicited.

Instrumentation was another source of threat to the internal validity of the present study. In order to minimize its effects, prior to the beginning of the study the researcher field tested the writing prompts and made necessary changes should students have difficulty in understanding and/or writing on the suggested prompts. Further, the researcher revised the prompts whenever necessary in order to elicit argumentative discourse and created a pool, from which she randomly selected a writing prompt to be
used during the pretest, a writing prompt to be used during the posttest. Further, in order to minimize the threat of the teacher-researcher bias, a decision was made to assign the remaining writing prompts to the freewriting and Larson’s Heuristic conditions randomly.

The scoring procedure was based on the Focused Holistic Scoring criteria. The instrument consisted of “four composing characteristics that … assume specific meaning when applied to the persuasive composition” (Focused Holistic Scoring Guide, p. 4). These include the following: main idea, supporting detail, organization, and coherence. Due to the fact that written argumentation has certain features that are not present or not equally important in other modes of written discourse, the fact that the scoring guide was designed specifically to assess the quality of written argumentation, thus, it was assumed to be accurate.

**General Description of the Course**

The English Composition course (English 112) is designed to guide students in developing their writing ability for study and work, to help students learn writing as a process, and to develop their understanding of concepts of audience and purpose. The students are expected to learn and apply strategies of prewriting (rhetorical invention), drafting, and revising.

As indicated in the English 112 Course Plan approved by the Department of Arts and Sciences of the New River Community College, “The primary purpose of English 112 is to continue to teach the student to write clear, coherent prose and to help the student to develop proficiency in doing research, in writing the research paper, the argumentative essay, and literary critiques” (p.1).

The English 112 course consisted predominantly of reading-based writing assignments, the material for which included drama, poetry, argumentative discourse, and multiple sources for the research papers. Students were required to complete at least five major writing assignments with the 16-week period of time. Among the three required textbooks adopted by the department for English 112, two were designed as students’
references in language mechanics, punctuation, syntax, and other language conventions. The other book consisted of the primary texts on which students based their writing.

This latter book, *Literature and Writing Process*, contained a limited amount of information about the nature of the writing process, and a great variety of literary texts, including an anthology of short fiction, drama, and poetry. No text was identified as specifically pertinent to the study of argumentative discourse and no theoretical discussion of the nature of argumentative discourse was included in any of the textbooks. The structure of written argumentation was not addressed by the authors of any of the textbooks adopted for English 112, the writers’ needs or goals were not described in any of the textbooks. Students relied predominantly on the handouts provided by the instructor-researcher, classroom discussions, peer group conferences, teacher-student conferences. Argumentative writing was taught both inductively and deductively.
CHAPTER II

REVIEW OF RELATED LITERATURE

The literature reviewed in this chapter includes the following: (1) research on the writing process, (2) an overview of theories of rhetorical invention, (3) research on structured strategies (heuristics), and (4) research on non-structured strategies of rhetorical invention.

Research on the Writing Process

The need for studies on the composing process emerged in the 1960s. At this time, the current-traditional paradigm in teaching of writing became increasingly criticized for its inability to provide effective means of designing and delivering the writing instruction (Harrington, et al., 1981; Lauer, 1984; Young, 1978). The origin of the problem was in a notion of a homogeneous and straightforward leap that a piece of writing was supposed to make from the writers’ silence to their eloquence. Young (1978) characterized the current-traditional paradigm as follows:

The overt features … are obvious enough: the emphasis on the composed product rather than the composing process; the analysis of discourse into words, sentences, and paragraphs; the classification of discourse into description, narration, exposition, and argument; the strong concern with usage (syntax, clarity, emphasis); the preoccupation with the informal essay and the research paper. (p. 31)

Students’ writing often failed to demonstrate the sufficient degree of insight and depth. At this time writing has often been mistakenly treated “as a single kind of ability” (Britton, 1978, p. 13). Moreover, developing of this ability remained outside of the composition classroom:
Students brought their finished products to the teacher for correction and evaluation. The composing of these products was something students had to manage on their own. Whatever process they used remained a “black box” to the instructor: the assignment went in at one end, and out came the final paper at the other. (Bizzel, 1992, p. 176)

Beginning in the 1960-1970s, the teaching of composition began to undergo a paradigm shift (Young, 1978). It was suggested that writing is a complex, heterogeneous, and non-linear process. Rohman and Wlecke (1964) singled out three stages in the writing process of proficient college student writers: prewriting, writing, and editing. Though a more complex pattern consisting of prewriting, drafting, sharing, revising, editing, and publishing (Calkins, 1986; Pope & Prater, 1990) has been suggested, it presents a more sophisticated and refined version of the original pattern. With growing awareness about the complex nature of composing, there emerged a new direction in research, the investigation of the sub-processes involved in writing.

Early studies on the composing process “were concerned with the nature of such variables as prewriting behavior, activity during pauses, rate of writing, and what writers do when they stop” (Hillocks, 1986). Similar to the studies on the composing process in general, early research on rhetorical invention focused “merely on the time that writers of varying ability spent on planning” (Faigley, et al., 1985, p. 23). It was not until 1971 that the emphasis began to shift toward the nature of activities in which writers engaged during the invention stage.

In the first large-scale study of the writing process and sub-processes involved in composing was conducted by Emig (1971) and investigated the composing processes of twelfth graders. Several dimensions were singled out: context of composing, nature of stimulus, prewriting, planning, starting, and composing aloud. The data obtained from verbal protocols of six successful and two “not particularly able” (Emig, 1971) student writers revealed that “the length of planning; mode of planning (oral, written: jotting, informal list of words/phrases, topic outline, sentence outline); scope; interveners and interventions” (Emig, 1971, p. 34) differ across the proficiency levels. The length of the
pre-drafting time was found to be one of the most prominent differences. Even more intriguing was the suggestion that not only the length but also the quality of the initial stage of the writing process played a critical role in the quality of the produced written text. Recent research studies “have tried to infer cognitive strategies and metacognitive knowledge from the studies of the timing of planning” (Faigley, 1985, p. 24).

Students’ ability to generate ideas for the emerging piece of written discourse has been increasingly viewed as a critical factor in the production of a written text (Calkins, 1986; Hennings, 1990; Lauer, 1984; Odell, 1978; Olson, 1985; Piolat & Roussey, 1996, and many others):

The process of writing begins long before a single word is actually written down- at the time a writer decides to write about something. This time to generate ideas, thoughts, and images and to formulate plans for writing is called the pre-writing stage; it may also be called rehearsing (Calkins, 1986; Hennings, 1990) or collecting (Murray, 1987). (Palmer, et al., 1994, p. 47)

Renewed interest in rhetorical invention over the last thirty years resulted in numerous approaches to teaching of the initial phase of composing. In a brief historic overview, Olson (1985) indicates that beginning in 1945, “researchers have worked strenuously to discover methods which help students who do not invent well” (p. 194). These theories of rhetorical invention will be reviewed in the following section.

**Theories of Rhetorical Invention: An Overview**

The complex nature of rhetorical invention is reflected in the difficulty of a comprehensive definition of the term. Greek word *inventio* and its Latin counterpart *heuresis* referred to the means of discovering arguments for persuasive discourse on public issues (Encyclopedia of Rhetoric, 1996). Kneupper and Anderson (1980) note that
at a minimum inventional theory is concerned with retrieval from the consciousness of the rhetor such information, concepts, and experiences that are relevant to some subject matter, purpose, or goal. A more powerful conception would view rhetorical invention as playing a central role in the process of inquiry and the discovery of new knowledge. This latter conception views invention as central to human problem solving and is a far more significant perspective for invention research. (p. 322)

D’Angelo (1985) defines rhetorical invention as “the process of discovering ideas for speaking or writing (p. 3). The author indicates that many writers proceed through this stage of the writing process by following their spontaneous instincts, one “can learn to guide this process deliberately by using formal procedures for analyzing and searching” (p. 30).

It appears that the author identifies as strategies of rhetorical invention only those that provide a clear and systematic directions to the writers’ inquiry. Specifically, D’Angelo (1985) indicates that all strategies of rhetorical invention fall into one of the following categories: 1) static models (e.g., analysis, enumeration, description, classification, exemplification, definition, comparison, contrast); and 2) progressive modes (e.g., narration, process, cause and effect). As further review of literature on the strategies of rhetorical invention illustrates, the classification offered by D’Angelo (1985) resonates the description of the strategies of rhetorical invention as outlined by Aristotle in his analysis of discourse.

Within the classical rhetoric, invention constituted one of the five parts of discourse. Accompanied by arrangement (dispositio), style (elocutio), memory (memoria), and delivery (pronuntiatio), it sought to guide the rhetor in “addressing many of the fundamental choices in composing persuasive arguments on public issues” (Encyclopedia of Rhetoric, 1996, p. 351). According to the analysis of classical rhetoric by Enos & Lauer (1992),
the rhetor [was] driven toward understanding by the values and beliefs of the audience and the culture, weaving new meaning with old, interlacing *ethos, pathos,* and *logos* in discourse that makes probable knowledge. In Aristotelian rhetoric, discourse is always intertextual and interactive, not the product of the muse, never created apart from social problems. In Aristotle’s invention … rhetors persuade by establishing meaning within the framework of their audience’s cultural presuppositions, within the network of existing texts, guided by arts that have already been developed by others. We therefore consider Aristotelian invention a complex social art. (p. 84)

During the eighteenth and nineteenth centuries, rhetorical invention underwent a significant metamorphosis: it “begins to decline in the Renaissance and continues to decline in subsequent periods as more and more emphasis is put on style, or logic, or taste, or genius” (D’Angelo, 1984, p. 62). With the linear nature of the writing process in view during this period of time, rhetorical invention involved three steps: selecting and narrowing the subject, composing thesis statement (usually by making a predication about the subject), and planning the argument (which usually entails constructing a formal outline that will then be elaborated into a fully developed text)” (Encyclopedia of Rhetoric, 1996, p. 352).

The spontaneous dissatisfaction with the state of rhetorical invention goes as far back as the first half of the twentieth century (Young, 1978). However, the idea of teaching invention as an essential part of the composing process met a strong opposition in the current-traditional paradigm. According to Steinmann (1966), distrust in the formal arts of invention had two main reasons: on the one hand, it was maintained that “rhetoric … is concerned with the effective choice of synonymous expressions [which] excludes both invention (choosing between non-synonymous expressions), and memory from the province of rhetoric” (cited in Young, 1978, p. 32). Such perception implies that ideas exist *a priori* in writing and that writers know exactly what they are going to say before writing begins: “Understanding what you know, think or believe about a topic is essential if you are to write clearly about that topic” (Steele & Steele, 1991, p.41).
On the other hand, reluctance to view rhetorical invention as an essential composition skill, can be explained by a popular vitalist assumption that writing involves “magic”, inspiration and spontaneity to a much greater degree than it involves conscious choices and decisions. With this view, “the writer is, in a sense, at the mercy of his thoughts” (Stoehr, 1967, 420). Palmer (1994) refers to the statement made by Einstein, “The answer will come while you’re eating an apple” (p. 29), and appears to emphasize the role of subconscious processes during the writing process. An extreme interpretation of the above statement suggests that creativity involved in composing resists formal instruction and deliberate control. An image of a lonely melancholic writer whose sleepless nights pass in awaiting the Muse may have originated in the view of writing as uncontrollable, untamable, unteachable, and unlearnable mystery.

Advocates of both premises qualifying invention for exclusion from the composing process base their argument on certain assumptions about the nature of composing in general. Addressing the above assumptions about the writing process resulted in the development of different theories of rhetorical invention. Odell (1993) analyzes “the various admonitions one might derive from recent discussions of theory, research, and pedagogy” (p. 213) and summarizes them as follows:

<table>
<thead>
<tr>
<th>Plan what you want to say.</th>
<th>Forget about planning; let the writing take you where it will.</th>
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<tbody>
<tr>
<td>Become aware of what you are doing so that you can do it better.</td>
<td>Give up the notion that conscious awareness or choice has any part in what a fluent writer does.</td>
</tr>
<tr>
<td>Develop your analytical/rational abilities; learn an inquiry procedure or develop your own.</td>
<td>Rely on the spontaneous inventiveness that comes only through the act of writing, for Rational thinking is not the source of insight or discovery.</td>
</tr>
<tr>
<td>Spend time examining your topic thoroughly, systematically.</td>
<td>Devote time to rituals or habits that create a State of mind in which insight is likely to occur.</td>
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The contrast between the two conceptions about the rhetorical invention is striking. On the one hand, rhetorical invention is thought of as spontaneous and intuitive, on the other hand, it is believed to be conscious and deliberate. Lack of consensus about the nature of rhetorical invention is accounted for by the lack of agreement about the nature of the writing process in general.

Though acknowledging the important role of the planning stage, Britton (1978) indicates that it does not find its full realization in the produced final text rather often. Studies aimed to determine the scope of alterations made by the author during the articulation stage, i.e. writing per se, “were consistent with the belief that we focus upon the end in view, [function of discourse to be produced: expressive, transactional, or poetic] shaping our utterance as we write; and when the seam is “played out” or we are interrupted, we get started again by reading what we have written, running along the tracks we have laid down” (Britton, 1978, 24).

Despite the lack of agreement about the nature of rhetorical invention, the progress made by the professionals in an attempt to examine the initial stage of the composing process is undeniable. After thirty years of intense research and classroom testing, there has been a dramatic increase in the body of knowledge concerning rhetorical invention. Numerous theories and approaches have emerged and re-emerged. For the purpose of the following discussion, the studies on rhetorical invention will be divided into two major groups: those devoted to structured (heuristic) and those whose purpose was to investigate non-structured strategies.

**Research on Structured Strategies of Rhetorical Invention**

*Heuristics*

The first cluster of strategies of rhetorical invention consists of the procedures that help writers to direct their exploration and organize their thinking about the topic prior to the beginning of composing process. These strategies, often referred to as heuristic procedures, provide a pre-established structure for the process of inquiry and guide
writers in considering the subject systematically and methodologically. As a rule, they exist in a form of “a series of questions or operations that guide[s] inquiry and increase[s] the chances of discovering a workable solution” (Young, Becker, & Pike, 1970, p. 120).

Metaphorically, a heuristic approach may be represented as computer programming, for it “depends on an analysis of the task in question into manageable subtasks” (Nickerson, Perkins, & Smith, 1985, p. 225). Heuristic strategies, therefore, require logical, sequential, methodological examination of the subject as well as studying the web of relationships in which the subject is involved. Exploration of the effectiveness of structured invention strategies revealed that it contributed to the quality of students’ writing (Dutch, 1980). As defined by Young (1987),

a “heuristic,” …is a codification of a particular sort of cognitive skill; it is a plan designed for carrying out complex, non-routine activities for which trial and error is undesirable or unmanageable, and for which we lack a rule-governed plan … or for which a rule-governed plan would be impractical or impossible. It helps us translate knowlegde about something into knowledgable practice. More specifically, it helps us initiate and to some extent guide promising ilines of inquiry—to pose good questions, for example, better questions than we might otherwise pose; it does not, however, guarantee good answers, as do rule-governed procedures. (p. 22)

Teachers and researchers of written composing have concentrated on the study of heuristics and their impact on the quality of the students’ written discourse (Corbett, 1985). The following sections of the discussion present a review of the research studies designed to explore the nature and effectiveness of selected heuristic strategies that appear to be most popular among teachers of composition and students. The discussion is ordered in the following way: 1) neo-classical strategies of rhetorical invention; 2) pentadic strategies of rhetorical invention; and 3) tagmemic strategies of rhetorical invention.
Neo-classical Rhetorical Invention

Neo-classical invention has its origin in the antiquity, in rhetoric of Plato, Aristotle, and Cicero. Though its applicability to the modern discourse has been questioned, there is a compelling evidence that similarities between contemporary and classical rhetoric outweigh the differences between the two. Lunsfort & Ede (1984) build a powerful argument and conclude that there exist “similarities between the two rhetorics, similarities which draw contemporary rhetoric closer to the classical system rather than further apart” (p. 45). The authors argue that

both classical and modern rhetoric view man as a language-using animal who unites reason and emotion in discourse with another. ... In both periods rhetoric provides a dynamic methodology whereby rhetor and audience may jointly have access to knowledge. ... In both periods rhetoric has the potential to clarify and inform activities in numerous related fields. (p. 45)

Focusing on the differences between the two appears to be but one result of current-traditional mentality: the emphasis is placed on the surface features, and little consideration is given to the deep underlying structures that initiate discourse both in classic and contemporary times. Thus, in many respects, contemporary rhetoric retains significant features of classical tradition (Corbett, 1971; Williams, 1989).

The process of applying classical invention involves a sequence of stages during which writers strive to accomplish various tasks. According to Young (1978), classical invention begins with identifying a question or an issue to be argued. A question or dissonance is the initial point of the inquiry. This step is followed by a statement of thesis: “It is not enough to decide that one is going to write on “democracy”. Before “democracy” can become a real subject for a discourse, something must be predicated of it” (Corbett, 1971, p. 45).

Formulation of the thesis, in turn, leads to considering three means available to the writer in persuading the audience: “by the appeal to their reason (logos), (2) by the appeal
to their emotions, and (3) by the appeal of our personality or character (*ethos*) (Corbett, 1971, p. 50). The rhetor may construct a discourse by using deductive and/or inductive methods. The difference between the two lies in that the former “makes inferences from statements”, while the latter “makes inferences from verifiable phenomena” (Corbett, 1971, p. 81).

Within classical and neo-classical paradigms, three major types of the aids to invention are distinguished: (1) the common topics, (2) the special topics, and (3) external aids to invention. The common topics guide a rhetor in constructing an argumentative discourse on virtually any subject. The special topics “will provide him with lines of argument especially pertinent to the particular kind of persuasive discourse in which he is engaged-deliberative, judicial, or ceremonial” (Corbett, 1971, p. 109).

Thus, in developing arguments on the next stage of the process, the rhetor systematically used topoi, or heuristic probes. The term refers to “the sets of topics-resources, seats, places, or haunts of effective arguments including lines of reasoning, types of evidence, and the appeals to the audience” (*Encyclopedia of Rhetoric*, 1996). An argument, thus, can be developed by definition, comparison, contrast, antecedents, consequences, contradictions, etc. (Young, 1978).

Many contemporary composition textbooks use categories that “are remarkably like the classical topoi. They are, in fact, the topoi” (D’Angelo, 1984, p. 63). Figurative language is still aligned along the three types of argument: “figures of resemblance include simile, metaphor, and allegory. Figures of contrast include antithesis, epigram, and irony. Figures of contiguity include metonymy and synecdoche” (D’Angelo, 1984, p. 63). These essentially Aristotelian concepts are often recognized as being powerful invention strategies, since “[they] are active, dynamic processes of making meaning by making relationships (Arrington, 1984, p. 4).

Commonplace books, sometimes referred to as precursors of contemporary journals, served as the springboard for the enthymeme which Aristotle considered the backbone of argumentation. A source of “common” truth, they provided a rhetor with ideas, maxims, quotations while he was appealing to the audience’s ethical sense, and/or
emotions. By employing analogy, comparison and contrast, a rhetor could also organize the material of commonplace books while building an appeal to the audience’s logic.

Utilization of classical (neo-classical) invention strategies in the contemporary composition classroom appears to be a political, and therefore, controversial issue. On the one hand, it is argued that with this approach, an overt emphasis is placed on structure and organization of written discourse (Knoblauch, 1984).

On the other hand, there has been a notable attempt to demonstrate that classical invention is effective in constructing written discourse in general and argumentation in particular (D’Angelo, 1984; Flynn, 1980; Corbett, 1984; White, 1987). An overwhelming number of studies conducted by theorists and practitioners suggest that classical invention, which enabled ancient Greek and Roman philosophers to create their everlasting pieces of persuasive discourse, must be integrated in contemporary composition curriculum.

Pearce (1994) maintains that topoi are effective in teaching of writing. Musgrove (1993) considers that composition courses should offer students an introduction to the general means of persuasion under the genus of “topoi.” One of Aristotelian strategies of building an argument, ethical appeal, is recommended as a heuristic strategy for business writing (Molberg, 1992). Hood (1984) maintains that rhetorical syllogism is rightfully being reinstated in the composition classrooms. Hairston (1985) maintains that Aristotelian enthymeme has a great potential for the composition classroom. Platonian concept of metonymic interpretation of experience finds its reference in the name-game (Blau, 1996). “The writing of dialogues, Socratic or otherwise, has been proposed as a means of encouraging student sensitivity to voice, the need for elaboration of generalization, the disposition of arguments, and other features of discourse that are, or should be, shaped by ethical or situational considerations” (Tate, 1987, p. 27).

In discussion of classical and neo-classical rhetorical invention, much emphasis has been placed on their highly analytical nature. It has been noted that topoi appear to be static and are difficult for student writers to comprehend and apply to composing. In an attempt to adjust the classical theory of rhetorical invention to the contemporary needs, Larson (1968) proposed an adaptation of the topoi. He suggested that
…in our teaching of ‘invention’ we make a persistent effort to force students to become as familiar as possible with the facts, and possible relationships among the facts, about experiences on which they might write, and also that we force them to examine the facts underlying concepts they consider important and the content of propositions on which they might want to write. (p. 126)

The effectiveness of Larson’s heuristic has been examined by Dutch (1980). The study was designed to compare the use of student-generated heuristic with the use of Larson heuristic. The former strategy is operationally defined as “unidentified search strategies they [students] had developed for finding material to write about” (Dutch, 1980, p. 6). The researcher hypothesized that these spontaneous invention strategies that the students possessed, were encouraged to generate and refine would lead to a better performance than Larson-generated heuristic.

The study involved 144 students enrolled in the first course of English composition at Morgan university. Eighty-five students generated their own heuristic, while fifty-nine students were provided Larson-generated plan of rhetorical invention. As a result of the comparison of the pre- and posttest scores, the researcher concluded that the subjects “who used a highly structured heuristic performed better than those who generated their own” (Dutch, 1980, p. 54).

One of the most popular arguments against classical rhetorical invention and its more recent adaptations for the composing is that their origin, classical rhetoric, is obsolete. In the age of the print, it is argued, a new rhetoric and a new approach to teaching of rhetorical invention is needed.

However, classical and neo-classical rhetorical invention appear to have some advantages. Specifically, they “can guide him [a student] in making strategic decisions in the composition process” (Corbett, 1971, p. 43). Though designed in the age of orality, classical rhetoric was intended for argumentation, thus, it may have an inherent potential of achieving its aim in modern times and in construction of written discourse. Among all strategies of rhetorical invention, only classical and neo-classical heuristics appear to
address the specific needs of an orator who is engaged in composing of argumentative mode of discourse.

**Pentadic Invention**

Another heuristic strategy of rhetorical invention is referred to as Burke’s Dramatism (Burke’s Pentad). The strategy was first introduced in 1960 and involved considering such categories as act (what was done), scene (where it was done), agent (who did it), agency (how it was done), and purpose (why it was done). This approach is similar to the one used in journalism and allows the writer to provide a comprehensive picture of an occurrence. One of the major advantages of Burke’s Pentad, according to Harrington (1981), is in that “double focus on rhetoric and dialectic offers methods for getting beyond [our] present almost obsessive concern with style and surface in most writing courses and programs” (p. 203)

Theoretic aspects of Burke’s approach to teaching rhetorical invention and its effects on the writing performance remain poorly explored. In part, this fact may be attributed to “Burke’s own lack of interest in rhetorical composition in contrast to his intense interest in rhetorical analysis” (Tate, 1987, p. 30). Burke’s dramatism was initially intended for analysis of already existing discourse rather than for the use as a heuristic strategy. It appears that the shift in application of Burke’s pentad from analysis of the existing discourse to composing of the new discourse is somewhat similar to the history of commonplace books: invention of Hesiod, commonplace books were originally intended to store the best that was known in the world. Later, however, they were used as a source of ideas and a tool of rhetorical invention for the discourse in progress.

D’Angelo (1984) attempted to demonstrate how the terms of Burke’s Pentad (act, scene, agent, agency, purpose), “constitute[s] kind of superordinate set of rhetorical topics within which can be subsumed the deep structure categories of case grammar” (p. 64). Implied is that the questions one asks while using Burke’s pentad direct writer’s attention toward different grammatical members of the sentence. D’Angelo concludes that at a deeper level of analysis, these questions present classic topoi. Thus, one “will
recognize in these categories resemblances not only to the inflectional case categories of Latin grammar, but also to the classic topoi” (D’Angelo, 1984, 65).

One of the advantages of Burke’s pentad lies in its potential to allow students to explore their subject prior to formulating the thesis. As it is indicated by Hayes and Flower (1981), students “typically don’t start with a thesis or well-focused body of ideas. Instead, they start with a body of knowledge and set of goals, and they create their focus by such complex actions as drawing inferences, creating relationships, or abstracting large bodies of knowledge down to what I really mean” (p. 45). In this respect, Burke’s pentad accomplishes two major goals. First, it helps writers recreate their experience as is. Second, it provides an alternative to the enthymeme of classical and neo-classical rhetoric.

With Pentad approach to rhetorical invention, the writer’s inquiry takes place in four stages: preparation, incubation, illumination, and verification (Young, Becker, and Pike, 1970). Much like other heuristic strategies, and primarily Pike’s Tagmemic, which will be reviewed in the following section, Burke’s Pentad appears to guide students through a series of pre-established questions systematically and methodically. This implies that the set of questions gives writers a clear sense of direction. However, as Corbett (1986) contends, “it should be obvious that this system of generative questions is most suited to narrative kinds of discourse” (p. 53)

**Tagmemic Invention**

The third strategy of rhetorical invention which emphasizes structured and systematic approach to the exploration of a problem is known as Pike’s Tagmemic. Designed as far back as 1967, it is used as a powerful source of directing writer’s thorough and methodological inquiry. Similarly to other contemporary theories of discourse and rhetorical invention, which tend “to draw ideas from a wide variety of theories and disciplines” (D’Angelo. 1984, 65), tagmetic-based theory of invention is identified as the one that is “based on tagmemic theory in linguistics” and at the same time, takes “its controlling metaphor from field theory in physics” (D’Angelo, 1984, p. 65).
Theoretical premise of the theory is that an individual perceives the world from three different perspectives—as if it is static (particle), as if it is dynamic (wave), and as if it is a network of relationships (field). One can observe a clear parallel between Pike’s tagmemic and Aristotelian notion of three categories in rhetorical invention: fables, historical parallels, and examples drawn from other fields. As Moss (1986) notes, “the tagmemic system Young advances is a new set of topoi that might be used along with those of Aristotle” (p. 13)

Though seemingly more advanced and more sophisticated than classical rhetoric and classical invention, Pike’s tagmemic presents striking similarities to Plato’s dialectic, since it involves questioning, answering and justifying, refutation and cross-examination, also called purification, and modification of original position (Golden, 1984, p. 31). In both classical rhetoric and Pike’s tagmemic, students eventually have to draw inferences from their memory, from the existing knowledge about the subject, the world, and self. As noted by Corbett (1986), “this method … was designed to help the writer carry out three productive activities when faced with a problematic situation: ‘retrieval of relevant information already known, analysis of problematic data, and discovery of ordering principles’” (p. 52)

A number of studies were aimed to determine the effectiveness of Pike’s tagmemic (Burns, 1980; Ebbert, 1980). There is evidence that students benefit from using the strategy and that the quality of writing improved. On the other hand, Tate (1987) reports that several studies on effectiveness of Pike’s Tagmemic provide ambiguous results: “Some studies report significant change in student abilities, others no change” (p. 33). The author suggests this difference results from a widely recognized disadvantage of Pike’s Tagmemic: “though the theory is essentially sound, the theoretical presentation and the pedagogy are too complex and demanding, especially in the case of the exploratory procedure” (Tate, 1987, p. 33)
Summary of Research
on Structured Strategies of Rhetorical Invention

Though structured heuristics are been commonly used to facilitate the students’ composing processes, the results of research on effectiveness of these approaches do not provide a compelling evidence about advantages of any one approach for a particular mode of written discourse. Burke’s Pentad and Pike’s Tagmemic appear to contribute to students’ active engagement in the writing task. Thereby, it is believed, these approaches contribute to creating better conditions for a careful and systematic investigation of the subject (Irmscher, 1976; Lauer, 1968; Linderman, 1982; Rose, 1983; Young, 1981).

As it has been demonstrated, classical invention subsumes both Burke’s Pentad and Pike’s Tagmemic. As Corbett (1986) indicates, that “When one closely examines the heuristic systems that have been developed in this century, one notes the affinity that many of them have with the classical system of the topics” (p. 55).

However, only particular aspects of classical invention are illuminated in both Pentadic and Tagmemic heuristic procedures, and the contemporary heuristic strategies of rhetorical invention may thus be viewed as reductionist in that they address only a more or less specific rhetorical problem. As Flynn (1980) demonstrates, no strategy of rhetorical invention can be universally applicable: “Tagmemic Invention, …with its comprehensive, multi-observational matrix for generating content, can most effectively be applied to reference discourse, while Dramatistic Invention, with its basis in Burke’s theory of literary criticism, can most appropriately accommodate the complexities of literary discourse” (p. 11). Similar view has been expressed by Corbett (1971), classical invention has an advantage of being designed specifically to address the needs of a rhetor in the process of constructing persuasive discourse. Flynn (1980) contends that

1. In its application of the common and special material topics, Aristotelian invention provides guidance in generating content, i.e., in discovering the proper arguments to be applied to a given proposition, and in re-discovering the support for those arguments from the speaker’s broad knowledge.
2. In its dynamic conception of arrangement for each type of discourse—forensic, deliberative, and ceremonial—and its application of the formal topics, Aristotelian invention provides guidance in generating the rhetorical relationship between content and form.

3. In its choice of subject matter, its clear sense of purpose and its insistence that the speaker create the impression in his discourse that he is an intelligent man of high moral character and good will, Aristotelian invention provides guidance in generating the rhetorical relationship between the speaker and his content.

4. In its recognition of the means of persuasion, intrinsic as well as extrinsic, and its practical recognition that all parts of the discourse be selected, arranged, and adapted to the end of persuading a particular audience, Aristotelian invention provides guidance in generating the rhetorical relationship between the speaker and his audience. (p. 44-45)

   Furthermore, some concerns have been expressed about the “heuristics of simplification” (Thorne, 1993): “We are implicitly teaching our students to simplify the difficult process of constructing meaning by following a formula” (Thorne, 1993). In those cases when students approach the task systematically but address integral parts of the strategy mechanistically, the resultant written discourse does not demonstrate students’ insight and in-depth thinking.

   The student may fear that an elaborately systematized approach to composing will inhibit rather than facilitate writing. There is no denying that formula can retard and has retarded inventiveness and creativity. But to admit that formula can inhibit the writer is not to admit that it invariably does inhibit him. … [H]owever, … adaptation of classical rhetoric offers no magic formula for success in writing. (Corbett, 1971, p. 44)

   Thus, utilization of an invention strategy does not guarantee the improvement of quality of students’ writing. Moreover, knowledge of heuristic strategies may be
counterproductive: while giving students a formula, we may limit their discovery to addressing the specified questions. Another legitimate concern is in that a heuristic procedure, no matter how extensive and elaborate, addresses only a certain number of issues. It can be hypothesized, then, that the students’ interests may lie outside the scope of investigation prompted by a heuristic. In this case, the degree of appropriation of the writing task decreases. Consequently, the strategy may fail to accomplish what it is designed to promote.

**Non-structured Strategies of Rhetorical Invention.**

It has been emphasized by many teachers and researchers that classical and neo-classical rhetorical invention cannot apply to modern discourse. They became outdated, it is claimed, due to the dramatic change in the ways of thinking and reasoning of a post-modern person. Knoblauch (1984) points out that “ideas about the organization of the world, the nature of human beings and their place in the world, the nature of society and mind and language, the magical forces in the world—all are gone” (p.79). It is also contended that the nature of contemporary argumentative discourse differs from that of the past. Thus, the author concludes, ancient rhetoric must be displaced by a new one that offers better answers to important questions—indeed, it raises better questions. Its frame of reference is a richer starting-point for thinking about discourse… That frame of reference is also richer for the teaching of writing, providing a subtler awareness of why people compose as well as how. It can energize teaching by revealing the power of language and therefore the significance of efforts to develop that power. It clarifies the process of composing so that teachers can find imaginative ways to initiate student writing, ways of responding supportively to texts, and ways to encourage still more writing as the best means of nurturing growth in writing ability. (Knoblauch, 1984, p. 77)
Contemporary world is increasingly viewed as uncertain and unpredictable. “In such a world … man is compelled to construct his own coherent cultural tradition” (Flynn, 1980, p. 9). This uncertainty may be the origin of the ever increasing popularity of less structured, more loose approaches to knowledge construction than those provided by heuristic procedures. In the area of teaching of composition, this fact is reflected in the high appeal of non-structured strategies to teaching of strategies of rhetorical invention.

**Research on Non-Structured Strategies of Rhetorical Invention.**

Non-structured strategies of rhetorical invention are designed to activate the writer’s spontaneity and stimulate the unconscious, intuitive processes. Rohman’s meditation, freewriting, brainstorming, word association, writing to sensory stimuli, drawing/imaging, seem to be among the most popular strategies used by the teachers and students (Jauer, 1984; Odell, 1978; Palmer et al., 1994). Each of the above strategies has its advantages and disadvantages and would constitute an intriguing issue for an inquiry. However, it appears reasonable to select the most illustrative and characteristic procedures for a detailed analysis in the following discussion.

Numerous studies were designed to explore the effects of various sensory stimuli on the quality of writing. In a sense, using stimuli as invention strategy represents a sub-category of freewriting. Within this approach, asking students to write to auditory and visual stimuli are among the most popular. The results of the studies aimed to determine the effectiveness of this type of invention have often been inconclusive and even contradictory. Early studies conducted in 1970s by Ewing (1968) and King (1975) appear to suggest that sensory stimuli, both auditory and visual, do not increase students’ inventiveness. In later studies, it was found that students who were exposed to sensory stimuli also obtained higher scores on fluency, originality, and quality (Mahoney, 1982). Black (1993) designed a study aimed to determine whether pictorial stimuli alone, auditory stimuli alone, or combination of the two contribute to the improvement of the quality of the essays written by 49 tenth-graders. The results of her study suggest that only a combination of auditory and visual stimuli appears to improve students’ writing. None of
the aforementioned stimuli were found to produce the desired improvement when administered alone.

Perhaps the most popular non-structured strategy of rhetorical invention commonly used at nearly all levels of composition instruction is freewriting. A number of research studies were designed to explore its effects on the quality of students’ written discourse. Freewriting “involves asking students to write about whatever they are interested in” (Hillocks, 1986, p. 211). The results of research appear to suggest that free writing increases students’ fluency in composing (Murray, 1978; Myers, 1983). However, there is often a certain degree of confusion about what exactly has impact on the quality of the students’ writing. Elbow (1986) indicates, “when I make progress toward something “higher” in writing—toward clarity of thinking or effectiveness of language or toward meta-awareness—I experience this progress as rooted in freewriting, the “lowest” of writing activities” (p. 213)

In her study of the effects of freewriting, Cheshire (1986) reports that “freewriting as a classroom strategy appeared to be a solution to the problem of dull and blocked writing” (p. 149). The researcher’s goals were to 1) establish whether students wrote better essays after having regular freewriting experience; and 2) whether students who freewrote regularly displayed less apprehension by the writing task. Two college teachers, each of whom taught two sections of the same composition course, selected one of their classes as a control group, while the other served as a treatment group. Fifty-six subjects participated in the study. Analytical grading scale was used to assess the essays produced by the subjects in the study. As a result of this study, the researcher made the following inferences:

1. freewriting did not produce any measurable effects on any of the designated components of writing, i.e., ideas, organization, wording, voice, point of view, rhythm, mechanics, and length;
2. The analysis of the data revealed “significant teacher differences, both in essay scores and in level of apprehension” (Cheshire, 1986, p. 150);
3. In contrast to the data, both teachers reported that ‘freewriting had a positive influence on them and on students in their freewriting classes. Both teachers found the freewriting method so rewarding that since the study they report using it in all classes they teach.’ (Cheshire, 1986, p. 150)

However, since freewriting is based to a great extent on the writer’s pre-existing knowledge, it may be hypothesized that its effectiveness also results from writer’s knowledge of the subject of writing rather than from utilization of invention strategy per se. “Freewriting helps students begin to write easily and with pleasure; it is a technique to help them feel comfortable in their writing. It’s a discovery process with no definite purpose, allowing students to write without fear of criticism or grades” (Palmer et al., 1994).

It is often maintained that students who have negative previous experience in writing can benefit from freewriting, since it allows to eliminate the “writer’s block”:

Many of the least able writers are paralyzed by the conviction that every good writer produces perfect first drafts, since good writers have learned the secret rules for writing; so these unskilled students will linger painfully over one or two sentences, or one or two words, in a hopeless attempt to render them flawless before proceeding. (White, 1985, p. 190)

Despite the status of freewriting as a widely recognized strategy of rhetorical invention, there appears to be no conclusive evidence that it indeed facilitates written expression:

It [freewriting] doesn’t have a literature. There is little theory and even less data. Since most of what little has been published about freewriting has tended to defend, celebrate, or disapprove it, the profession lacks any real understanding of what this mode of writing is, of what happens when people freewrite, or of the
variety of ways teachers and student can use it. (Belanoff, Elbow, & Fontaine 1991, xii)

As noted by Fontaine (1991), scholars and teachers do not have the theoretical basis to conclude that freewriting indeed is beneficial. “There has been very limited investigation into the effects, the benefits, or even the physical appearance of freewriting” (Fontaine, 1991, p. 4). In a two-year long study she found that the majority of students were either recording or transforming their experiences when given time to freewrite. The study was limited to the samples that were submitted by the students. The researcher was interested primarily in private unfocused freewriting. No rhetorical problem was posed, and students did not have to use their freewriting to compose any particular mode of written discourse. Moreover, since it was private freewriting, they were never encouraged to share their writings with other students (Fontaine, 1991). The major advantage of freewriting, as the researcher concludes, lies in the opportunity to create chaos and then organize it in and through writing:

As far as some of the other benefits that teachers have claimed for freewriting—physical, moral, and spiritual—at this point in my investigation the best evidence of their existence comes from my students’ own descriptions. After a semester or two of freewriting regularly in class, students pointed to some of these benefits, explaining that freewriting ‘relieved tension; and ‘offered emotional help’ with their problems. (Fontaine, 1991, p. 14)

In another qualitative study of the effectiveness of freewriting, Belanoff (1991) found that during the nine week period of time, the effectiveness of the strategy varied as a function of the students’ proficiency level in writing. Though the researcher did not discuss the criteria for her categorization, the group of the good writers and the group of the poor writers were singled out. The findings of the study conducted by Belanoff (1991) for both groups may be summarized as follows:
Good Writers
Produced the most chaotic freewriting, in the sense that it made little attempt to explain private meanings and little attempt to provide connections when it jumped from subject to subject;

Produced freewriting that was periodically very much aware of itself as writing and of the physical conditions and environment of the writer; this awareness manifested itself in metalanguage;

Often produced the freewriting that never arrived at closure, that was self-consciously aware of the unresolved, that included more questions than answers;

The freewriting of the good writers within this particular group changed over time, acquiring more and more of the characteristics … already described

Finished pieces of good writing that grew out of earlier freewriting were often quite different from those freewritings, particularly in structure.

Poor Writers
Produced writing that was structured and ordered, with punctuation marks, full sentences, and logical connectives such as therefore, nevertheless, and so forth (words surprisingly absent from the freewriting of more skilled writers)

Expressed little awareness of the writing itself or the fact that they were writing; that is there was almost no metalanguage;

Used freewriting to record what had happened or to record the result of previous thinking; they did not often use it to tap into the ongoingness of the unresolved;

Tended not to change much over the span of eight or nine weeks, except that in every case but one the length of the pieces increased;

Often used freewriting they had done as the structural base of a finished piece of writing.

Belanoff, 1991, pp. 18-19
On the other hand, several studies revealed that though freewriting increases students’ fluency in writing, it does not lead to the improvement of the quality of students’ written discourse (Reynolds, 1981; Delaney, 1980; Witte & Faigley, 1981). Hillocks (1986) conducted an analysis of several studies on the effects of freewriting in the composition classroom and concludes that “even a steady diet of free writing (daily or several times per week) does not accomplish what its proponents hope for” (p. 178).

It is possible to assume that effectiveness of non-structured strategies of rhetorical invention such as freewriting, memory search, and writing to sensory stimuli varies as a function of dominant brain hemisphericity. However, results of the research studies in this area are not altogether conclusive. For example, Rico (1983) emphasizes the role of artistic expression among students by stimulating their right brain hemisphere. On the other hand, there is some evidence to suggest that dominant cortical hemisphere may play a less significant role in cognitive processing of information than it is often claimed to. For example, no difference was found in the quality of writing produced by extreme right- and left-hemispheric dominant thinkers in response to sensory stimuli (Mahoney, 1982).

**Summary of Research on Non-Structured Strategies of Rhetorical Invention**

It is undeniable that results of research studies on non-structured invention strategies contributed to our understanding of their possible effects on writing performance. However, these results are not sufficient to conclude with certainty whether these strategies are equally effective for various types of discourse. Furthermore, it appears that certain learner characteristics must be taken in consideration while suggesting non-structured invention strategies to the writers: writers’ familiarity with the strategies, their experience in practical application of these strategies, level of writing performance, etc.

D’Angelo (1984) maintains that the writing process proceeds from low level of differentiation to a higher one, from the global to analytic to synthetic stage (D’Angelo, 1984, p. 51). This conceptualization of the writing process is somewhat similar to Rico’s
(1984) sequence of three stages of development of an individual’s writing ability. According to the latter, the writing process evolves as a sequence of predictable phases: “innocent eye, ear, and hand”, “conventional eye, ear, and hand”, and “cultivated eye, ear, and hand.”

The first stage is marked with free expression of experience, lack of anxiety and fear. Children’s writing at this period of time looks like a chunk of life, lively and fresh in its wholeness. Though a piece of writing does not appear logical to an outsider, it has an inner logic and completeness of its own. This portrait of an early writing bears striking resemblance to the oral or low-differentiation stage suggested by D’Angelo (1984).

The second developmental stage is that of “conventional eye, ear, and hand.” This phase is characterized by child’s attempts to conform to the language conventions, follow the rules of grammar and try fewer neologisms. During this stage, “writing becomes more “universal” in a sense that it does not reflect writer’s unique experience as much as it used to during the stage of “innocent eye, ear, and hand” (Rico, 1983, p. 12).

The third stage of the writer’s development is the phase of “cultivated eye, ear, and hand”. It is characterized by increased awareness of the language mechanisms, knowledge of vocabulary, and, at the same time, desire to return to the wonder of discovery experienced in the stage of “innocent eye, ear and hand.” At the stage of “cultivated eye, ear, and hand” the writers are equipped not only with their intuition in the decision making, but also possesses conscious knowledge of the language structure and conventions.

With the above theory of development of the writing ability, one can assume that a piece of writing follows a similar pattern: it proceeds from chaos and lack of structure to sophistication of “wisdom and eloquence”. Thus, freewriting may be extremely helpful in justifying the lack of order in the student’s initial draft. It can also serve a function of a facilitator in discovering new ideas as the writer moves from low or no differentiation to a high degree of analysis and synthesis.