Based on a project concerned with studying invention across the curriculum, this paper discusses an across-the-curriculum writing program that encourages students to take control of what they are studying, contributing to what is known rather than being passively filled by it. The paper (1) challenges the current notion that creative behavior is a process somehow independent of the enduring product it struggles to produce; (2) affirms and promotes the role reading and writing have in the invention or generation of new ideas in a given discipline; (3) supports the idea that the knowledge, insights, and methodologies of several disciplines may shed light upon one another, thus enabling people to use new logics, evoke new meanings, and discover new patterns in the pursuit of knowing and thinking; and (4) offers general proposals for a new kind of program for writing across the curriculum. (EL)
READING, WRITING, THINKING AND CREATING ACROSS THE CURRICULUM: AN IMMODEST PROPOSAL

by

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"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."
In the summer of 1984, we embarked on a research project to study invention across the curriculum. By examining the literature on creativity in psychology, sociology, anthropology, linguistics, education, rhetoric, literary criticism, art history, and the popular press, as well as published first-hand accounts of great thinkers from different fields, we hoped to discover or possibly synthesize a method to assist students with that vital first step in writing across the curriculum: coming up with a good idea.

The road to hell is paved with good intentions. We found, instead, that the established methodologies of invention were very effective in preventing students from coming up and pursuing good ideas. While composition theorists have been taken with the attractive notion that writing and thinking are the same, because it somehow legitimizes what we are doing in freshman composition and makes writing--a hitherto subjectless endeavor--suddenly wholly subject-ive, nobody has really bothered to insist that the construction of competent texts might actually be a methodology vital to the pursuit of substantive discovery, to the creation of products that significantly alter or affirm the world as we know it. Such activities are much more appropriate for upper
division, graduate and post-graduate students who have already finished their "writing requirements."

This discovery became the seed of an ambitious proposal; rather than simply assisting students to come up with nifty ideas that might gain them better grades one semester, or make life easier in what would normally be considered a tough course, we envisioned a program that would encourage students to take control of what they are studying, to contribute to what is known rather than to be passively filled by it.

Naturally, it took a lot of pages to come up with all of this. For the purposes of the present report, we thought it would be effective to compress our research and our reasoning into a single sentence, evocative rather than definitive in nature, and then use that sentence as a springboard for discussion of our proposal. Here's the sentence:

If we agree that an effective writing program is one in which thought--the power and capacity to reason, to discover meaning, to rationally organize experience--is vitally linked to the effects it can generate--effects that are principally manifested through the skills of reading and writing--then we must also challenge the current notion that creative behavior is a process somehow independent of the enduring product it struggles to produce, a notion that separates the traits of invention from critical evaluation of their outcome, a notion that has significantly colored the character of contemporary research in creativity and composition theory, a notion that contradicts the pragmatism of classical rhetoric which maintains that unless persuasion takes place, unless there
is evidence of an effect, then the creative inspiration is of no use; further, if we agree that there is a value to teaching writing across the curriculum, and we are confident that the ability to attentively, reflectively and judiciously read and write in the context of any discipline is not merely useful, not merely fortunate, but is, in fact, essential to a student who would master the substance of that discipline, then we must also affirm and promote the role reading and writing have in the invention, the generation of new ideas in a given discipline; and finally, if we agree that the acts of reading and writing can and do have such inspirational effects on the generation of new ideas within the confines of any single discipline, then we must also eagerly pursue the path these linguistic skills provide for us in bridging disciplinary boundaries, leading us to that broad concourse on which the knowledge, insights and methodologies of several disciplines may shed light upon one another, thus enabling us to apply new logics to different bodies of fact and their attendant mysteries, enabling us to evoke new meanings out of what may already be known by the application of new methodologies, enabling us to discover patterns, to discover order, where we had suspected none before, to apply, simply, the power of metaphor—the supreme virtue of language—to the pursuit of knowing and thinking;--it is through these agreements, through these principles, that we propose to animate a new program for writing across the curriculum.

We realize this is a mouthful, quite a bit to chew on, let alone swallow during the first reading or two. What we're going to do is break down our sentence into its four main clauses for discussion. Here are the subjects for those clauses:

CLAUSE I
There is a parallel between a) the vital link thought (an internal process) has with reading and writing (which depend on products, enduring physical forms) and b) the vital link the creative process has with its product.
CLAUSE II

Writing and reading are not only vitally linked to learning, but are also powerful methods for generating new ideas in a discipline.

CLAUSE III

Reading and writing compare and contrast thinking in different disciplines, thus enabling us to invent new ideas through the creation of broad types of metaphor.

CLAUSE IV

We offer general proposals for a new kind of program for writing across the curriculum.

Additionally, at the beginning of each clause under discussion, we will rearrange that clause in a form that should highlight its main ideas for you. To wit:

CLAUSE I

If we agree that an effective writing program is one in which thought--the power and capacity

[1] to reason
[2] to discover meaning
[3] to rationally organize experience--

is vitally linked to the effects it can generate--effects that are principally manifested through the skills of reading and writing--then we must also challenge the current notion that creative behavior is a process somehow independent of the enduring product it struggles to produce,

[1] a notion that separates the traits of invention from critical evaluation of their outcome,
[2] a notion that has significantly colored the character of contemporary research in creativity and composition theory,
[3] a notion that contradicts the pragmatism of classical rhetoric which
maintains that unless persuasion takes place, unless there is evidence of an effect, then the creative inspiration is of no use;

It's not news that writing is an instrument of thought, and a powerful method of learning; in other words, we readily recognize that the processes of thought and learning--two internal activities--are vitally linked to a product, to an external form--a sentence, a paragraph, a text, a discourse. Why is it then, that we deny that parallel relationship between the creative process, the process of invention--again an internal activity--and the product it produces, its external form?

One of the astonishing characteristics of contemporary literature on creativity is a hesitancy, even a refusal to acknowledge the whole of the creative process. Behaviorists and educationists, who have done the bulk of the research about creativity, avoid the question entirely by simply looking at those traits they consider to be associated with creativity, and not creative endeavor itself, or the actual product produced--considerations that seem indispensible to a study of creativity.

To consider the outcome of a creative effort as a measure of the excellence of that effort is not a radically new realization; artists, writers and
thinkers have been doing that for a while, before creativity was deemed a proper subject for study and cultivation. Most recently, Rebecca Owens did a study reporting the opinion of twenty visual artists on psychological theories of creativity, and found a consistent dismay on the part of those artists at the lack of consideration of creative content--product--in the theories.

We have no hesitancy to judge the soundness of thought, or the extent of learning in an individual by looking at the product he or she produces--usually the written product; why do we hesitate to evaluate the excellence of a creative product by looking at its product? This is the prejudice that has characterized the nature of research into creativity over the last 40 years, and has influenced our latest perceptions of the act of composing.

Current composition research and pedagogy habitually emphasize process over product; indeed, textbooks not promising "a process approach to composition" are rare. Thus, research and pedagogy in both creativity and composition focus on process and even ignore product, a practice that would be considered short-sighted by the bulk of pre-modern rhetorical and critical theory.

Aristotle defined rhetoric as the art of finding
the available means of persuasion—a creative process that takes into account both a maker and an audience—and he provided aspiring orators with a five-part model including invention, arrangement, style, memory and delivery.

Invention, arrangement and style are clearly matters that must be considered by orator and writer alike. But with regard to memory and delivery, Aristotle’s work has been deemed not particularly useful to the modern discourse theorists. What need has the writer of memory and delivery, they ask, since she does not vocalize her words? We must answer that question with another: What effect, what persuasion can possibly take place if a written idea is neither prepared in some manuscript form, some text, nor delivered—photocopied or printed and eventually read?

We propose a reassessment of the Aristotelian canons: the externalizing of creative inspiration is exactly what memory and delivery are about. It is by means of memory and delivery that creative acts are completed, because therein lies their integration into a larger, lasting social discourse.

Ignoring product is not an effective way to promote or evaluate process. Let’s look at it this way: we want to teach you to swim, and we’ve noticed that people who know how to swim get wet—constantly. If we
teach you how to swim by wetting you down--constantly--do you suppose that's going to work? And if we wanted to test how well you swam, would we check to see how wet you were? No. We'd check how well you did the swimming--how swiftly, how gracefully, or even whether or not you drowned. It is easy to see the disastrous consequences that the behavior in our example invites: an inability to distinguish between competence, incompetence, and wet death.

CLAUSE II

Further, if we agree that there is a value to teaching writing across the curriculum, and we are confident that the ability to

[1] attentively
[2] reflectively and
[3] judiciously

read and write in the context of any discipline is not merely useful, not merely fortunate, but is, in fact, essential to a student who would master the substance of that discipline, then we must also affirm and promote the role reading and writing have in the invention, the generation of new ideas in a given discipline;

There are a number of studies that show reading and writing are vitally linked to learning the content of a discipline. These would include Janet Emig's "Writing as a Mode of Learning," Hayes et al, The Writer's Mind: Writing as a Mode of Thinking, and Bannister and Kearns' "After the Heat: The Ethics of Controversy in Writing." If we accept this, then we
need to recognize that reading and writing are vitally linked to the generation of new ideas

1) because reading is the recreation of the writer's original creative act, as Jacob Bronkowsk, the Nobel Prize-winning physicist, put it (1970):

In my view, the appreciation of art or mathematics or any creative act is an act of recreation. When the man makes you see the unexpected likeness, makes you feel it to be natural that this likeness exists, then you in your modest way are re-creating. You re-live the act of creation; and that is why (in my view) appreciation is not passive. It is an activity of the same kind as the original act of creation, even though it is lower in intensity.

and 2) because creativity has at its core the forging of new associations, the bringing together of ideas that were previously thought to be unrelated, the creation of unities out of dissonance, as supported by Whitehead, de Beauagrande, Maslow, or, as previously cited, Owens' study of twenty visual artists,

and 3) because research indicates that writing, both in the service of learning and in discovering new ideas represents, as Owens puts it, a "communication between artist [writer] and emerging artifact with direction provided by the work as it matures."
CLAUSE III

and finally, if we agree that the acts of reading and writing can and do have such inspirational effects on the generation of new ideas within the confines of a single discipline, then we must also eagerly pursue the path these linguistic skills provide for us in bridging disciplinary boundaries, leading us to that broad concourse on which the

[1] knowledge
[2] insights and
[3] methodologies

of several disciplines may shed light upon one another, thus

[1] enabling us to apply new logics to different bodies of fact and their attendant mysteries,
[2] enabling us to evoke new meanings out of what may already be known by the application of new methodologies,
[3] enabling us to discover patterns, to discover order, where we had suspected none before,

to apply, simply, the power of metaphor--the supreme virtue of language--

to the pursuit of knowing and thinking;--

Language is the common denominator of all fields of study, making inter-disciplinary comparison and contrast possible. All disciplines, precisely because they are possessed of different collections of facts and methods, are potentially useful to one another. The cross fertilization between disciplines is basically a use of metaphor to aid thinking and knowing.

We suggest that metaphor is possible not only at the level of a word, sentence or single piece of discourse, but also at the level of collective
discourses that are the sum of human knowledge and thought. In other words, whole subjects of study can be juxtaposed with other subjects for the creation of new understanding. Let's look at an example of this.

Social psychologist Howard Gruber uses a historical analysis of Darwin's work to look at social influences on two stages of creative activities: during the production of ideas, and during the dissemination of those ideas. Gruber divides Darwin's writings—both private and public—into classes characterized by subject matter. Labeling the activity within each subject an "enterprise" because the activity is ongoing and self-perpetuating, he traces the course of Darwin's creative struggles in each enterprise from germination to dissemination, noting not only the influence of society on that journey, but also how work in each enterprise is often substantively changed and made more comprehensive by work in the others. Thus Gruber calls the body of enterprises a network, suggesting that this schema of creative activity is not uncommon among great thinkers, writers, scientists and artists.

It is clear from Gruber's study of Darwin's work that the theory of evolution would not have come about had Darwin not taken his "tenor" (to use I.A. Richard's definition of metaphor) and, in a sense, crossed from "vehicle" to "vehicle" in his development of it. What
started out in Darwin's notes as geological observations was influenced by what, at the time, seemed to be unrelated considerations of social events. These thoughts and observations took on more significance when viewed in the context of what was known about zoology, and what could possibly be known about human behavior in the light of observed behaviors of other species, and eventually, what could possibly be understood by seeing the emergence of any species—Homo sapiens included—as a material process governed by physical laws and events, rather than a heavenly-inspired process characterized by divine intervention.

This seems to us to be a very powerful organizational schema in which to generate new ideas, and, in the course of taking an idea from germination to presentation to the world, to develop more complexity, quality and subtlety than a single deliberation might allow.

CLAUSE IV

it is through these arguments, through these principles, that we propose to animate a new program for writing across the curriculum.

Here are our broad proposals for our writing across the curriculum program at the university level, proposals that can be applied in an honors program, with sophomores, with entering freshmen, or in an
advanced course of study:

1) Students should be placed in a seminar in which they study a) their own writings from other courses of study and b) metaphor, metaphor-rich texts, and writing theory;

2) Associated with the writing seminar, students should take several courses in other fields of study, courses that would require writing which could be examined and discussed in the core seminar. This situation is conveniently provided by general education requirements at most universities, though we are, at present, not making the most of this structure.

3) Each student should link his studies in different disciplines with a choice of subject matter. For example, suppose a student has an interest in the Civil War. In addition to taking a history course on the subject, he could also take courses in anthropology, chemistry and economics, establishing different vehicles (Richards again) for the tenor of an expanded metaphor; in other words, he would create a network of enterprises which would have the study of the Civil War as a common thread.

4) Finally, the student would be required to
produce a body of work which brings his
metaphoric understandings into being by writing
in each discipline about his chosen subject. We
anticipate the presentation of each student's
work to the entire seminar will have a
synergistic effect—that her fellow students,
her special audience, will be inspired by the
connections, the substantive discoveries she
will make, as she, in turn, will be inspired by
the work of others.

It is our intention that this kind of program, in the
long run, will help students to realize that when they
study any subject, they can be studying all subjects;
and that the connections that they make, connections
that are essentially hit-or-miss in nature in a
standard university course of study, really should be
the substance of their "education," the beginning of
what we hope will be their life's work.

CONCLUSION

If we had to rely on the bulk of what we had read
about creativity to explain what happened when we wrote
our research report, we would ignore the report by and
large, and concentrate on the moments when we stomped
from the room, frustrated, or the number of times we
plagued the reference librarian with obscure questions,
or the occasions when we fell into glazed stupors, or
became giddily elated. While such a consideration might
be entertaining, or even scandalous in some of its
possibilities, it could hardly begin to reveal anything
about the great point of using creativity in the first
place: to make substantive discovery and to bring it
into being.

We, like everybody else, would like to foster
creativity in our students; but unlike most of the
theorists we studied in our research project, we are
not interested in merely causing our students to "act"
creatively, to sport a set of symptoms. The metaphor
epistemology and networks of enterprise approach to
work and learning will require our students to produce
creatively, because it will aid and support them in the
judicious and critical inquiry and conclusion-making
that real education is.

In the broadest sense, the conscious living of a
human life—an examined life—is the ultimate creative
endeavor, forging passion, meaning and activity into a
single unit the likes of which the world has never
before or will ever again behold. This implies that, in
order for the living of a human life to be satisfying,
it must, ultimately, be productive.