

---

# Mechanical Engineering 200: 600-1000 Word Technical Paper

---

**Roger Graves**

Professor, English and Film Studies

Director, Writing Across the Curriculum

<http://www.ualberta.ca/~graves1/>

# Roger Graves



## Roger Graves

Director, Writing Across the Curriculum  
Professor, EFS

February 13, 2009

- wac
- c4w
- writing initiatives
- webmail
- efs

I'm new to the University of Alberta, having come from the University of Western Ontario where I was Director of the Program in Writing, Rhetoric, and Professional Communication in the Faculty of Arts and Humanities. In my new position here I'll be working with faculty and students across the university as part of the Writing Across the Curriculum initiative. I will also be working with students and faculty in the Department of English and Film Studies.

I am the author, co-author, or editor of five books and 29 articles, including *Writing Instruction in Canadian Universities*. My current research interests include the development of doctoral student writing, writing assignments across disciplinary fields, and rhetorical approaches to text encoding. Currently I serve as co-Vice-President of the Canadian Association for the Study of Discourse and Writing (CASDW) and a member of the Executive Board of the Canadian

### Recent presentations

This page contains links to pdfs of slides displayed at presentations I've given.

### Books

This page displays the covers and descriptions of books I've authored, co-authored, or co-edited



### Blog: Thinking About Writing

A new blog on writing-related issues

<http://www.ualberta.ca/~graves1/index.html>

# Centre for Writers



The screenshot shows the homepage of the Centre for Writers at the University of Alberta. The header features the University of Alberta logo, the text "Writing Initiatives University of Alberta", and the "Centre for Writers" logo. A navigation menu includes Home, Appointments, Contact Us, Location, Coaches, Resources, FAQ, and WAC. The main content area has a breadcrumb "Home > Home" and a "Welcome to the Centre for Writers" section. This section offers free one-on-one writing coaching and support to students, instructors, and staff. It lists services such as thesis formation, organization, idea development, grammar, and documentation style. A link to "Request a class room visit by a tutor" is provided. A welcome message for the Fall 2009 term states that tutoring hours begin on Monday, September 14. The right sidebar contains a date stamp (9/2/2009 10:34:15 AM), "Express News", "Twitter Updates" (with a link to follow on Twitter), and "GramWOW" (with a video player showing a person holding a sign).

 *Writing Initiatives*  
University of Alberta  *Centre for Writers*

[Home](#) [Appointments](#) [Contact Us](#) [Location](#) [Coaches](#) [Resources](#) [FAQ](#) [WAC](#)

[Home](#) > Home

## Welcome to the Centre for Writers

We offer **free** one-on-one writing coaching and support to all students, instructors and staff at the University of Alberta - in any faculty or at any level of study.

Our writing coaches are available to assist clients with higher order concerns in their writing, such as thesis formation, organization and idea development, as well as more specific details, like grammar and documentation style. Clients can bring in any writing project at any stage of development: essays, lab reports, creative pieces, scholarly articles, thesis drafts, application letters - and more. Our coaches will also help students read instructor comments on already-graded papers. ESL and EAL students are welcome!

[Request a class room visit by a tutor.](#)

**Welcome back for the Fall 2009 term! Tutoring hours will begin on Monday, September 14. The online appointment-booking schedule will be available to clients as soon as possible prior to this date. We look forward to working with you!**

9/2/2009 10:34:15 AM

**Express News**

**Twitter Updates**  
The Centre for Writers will open for the fall term on Monday, September 14! 5 days ago  
[follow me on Twitter](#)

**GramWOW**



<http://www.c4w.arts.ualberta.ca/>

---

# Communication/Technical Skills

No matter how many technical skills you have, you still need to deal with people at a level they can understand, so communication skills are just as important as technical skills.

Paula Anthony, Industry technical support team leader

---

# Earnings and English



A study reported in *Fortune* magazine showed that the top quartile in university studies earned **three times** what the bottom quartile earned in their lifetimes.

The best communicators among you will earn millions more over your lifetimes than the least effective communicators.

---

---

# Genres

As you move through your career at U of A you will need to learn new genres

- Engineering genres:  
presentations, abstracts, reports
  - Genres in course electives:  
essays, reflections, summaries, annotated bibliographies
-

---

# Audiences

You will need to learn to write for distinctly different audiences:

- Co-workers in co-op placements
- Engineering professors
- Professors in elective courses
- Job search documents



---

# Factors affecting success

- Flexibility of your writing processes
  - Ability to get feedback on drafts
  - Familiarity with the genre, complexity of the genre
  - Complexity of the task: description is less complex than analysis/synthesis
  - Number of audiences/readers, diversity within these groups
-

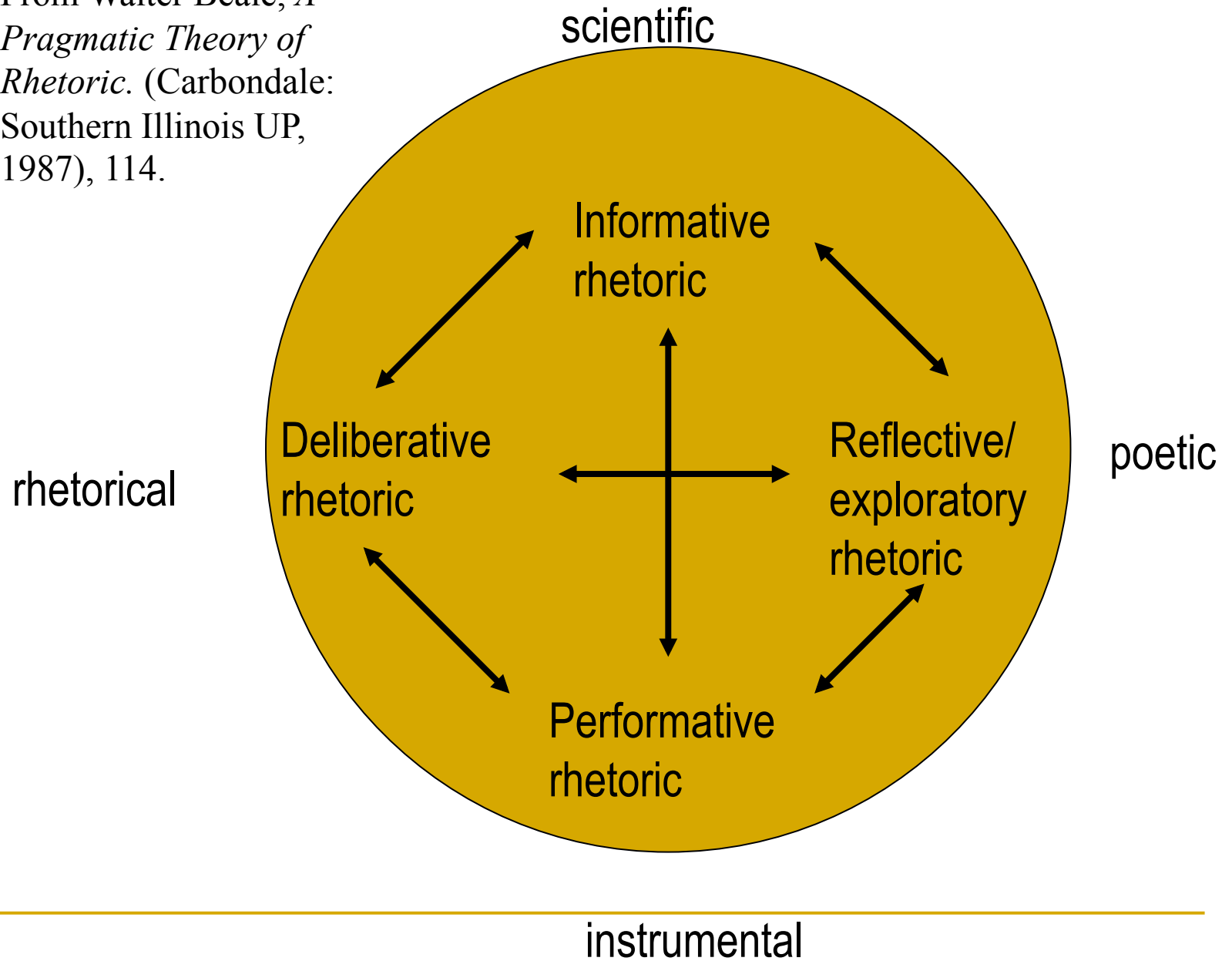


---

# Academic writing for engineering students

- Technical engineering documents
  - Email to peers, professors, staff
  - Job application materials
  - Essays for non-engineering courses
  - Lab reports for science courses
-

From Walter Beale, *A Pragmatic Theory of Rhetoric*. (Carbondale: Southern Illinois UP, 1987), 114.



# The circular model

- Highlights the dual aims of discourse
- A piece of writing can both persuade and inform (e.g. newspaper report on school lunches)
- Any piece of writing has at least two aims
- E.g Your resume
  - Informative and persuasive

*Express*News [Home](#)

UNIVERSITY  
BUSINESS  
[Alberta Students Finance  
Electronic Application  
Assistance](#)


MEDIA  
[News Releases](#)  
[Guide to Experts](#)  
[Media Tips](#)  
[Media Clippings](#)  
[Media Links](#)

EVENTS  
**Oct 19, 2009**  
[Sustainability Awareness  
Week 2009](#)  
[Athabasca University,  
Open Access Week](#)  
[ECOS' Free Bike Checks](#)  
[Teach English In Japan  
\(JET\) Info Sessions](#)  
[The heterodonty of  
tyrannosaurids:  
Biomechanical implications  
inferred through 3D  
models](#)

### Students stand up to make a difference

By **Ileiren Poon**

October 16, 2009 - (Edmonton) The University of Alberta quad was jumping this afternoon as students, staff, faculty and members of the Edmonton community came out to take part in Stand Up Against Poverty.



The annual event is designed to raise awareness of global poverty issues and to connect student groups with each other, as well as with researchers and community groups who are taking action against economic disparity. Students' Union president Kory Mathewson told the crowd that it's up to them to make a difference in

[Print story](#) | [Email story](#)  
[Video coverage of Stand Up Against Poverty](#)

---

# Audience and Purpose

- Understand your audience for a piece of writing
  - Understand your purpose for a piece of writing
  - The better you understand your audience and purpose, the better your document will accomplish your goals
-

---

## Goals/purpose

- The goal of this writing assignment is to produce a high-quality technical paper.
  - The subject can be chosen freely, however it must be based on an article from the ASME Mechanical Engineering Magazine.
  - Additional sources, such as from U of A library documents or the internet, may be used to supplement the information from the magazine article.
-

---

# Rubric

- Evaluation of the submitted work will be based on (1) structure and format, (2) relevance to mechanical engineering, (3) grammar, (4) spelling, (5) correctness of references, and (6) overall appearance. The maximum score for a perfect paper is 15 marks. Cumulative marks for this writing assignment will contribute 15% to the final course grade.
-

---

# Topics: Scope

Let's brainstorm a list of possible topics:

- Artificial intelligence (too broad)
  - Digital signal processing *applications* (better)
  - Automated manufacturing systems
-

---

# Rail guns: sample outline notes

Intro

Definition

How the system works

Current design/past designs

Real world applications

Implications for environment

Possible future

---



---

# Format

- 600-1000 words
  - Documents you have give extensive information about format; read them and do what they say
-

---

# Looking ahead: Drafts of reports

- Use the C4W as a resource to get feedback before handing in final drafts
  - Peer review: A complete draft must be brought to class July 13<sup>th</sup> for review. This draft must follow the above described IEEE format. It will be reviewed by two of your peers and returned to you by July 15<sup>th</sup>.
-

---

# Final thoughts

- Work hard at developing broad writing skills to handle the challenges of writing at work and in academic settings

