

Integration of Industry Professionals' Feedback into Improving Writing Skills of Construction Management Undergraduates

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COLLEGE OF CONTINUING EDUCATION

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Construction Managers facilitate construction and maintenance of the built environment.

Typical Job Tasks:

- Preparing cost estimates, budgets, and schedules
- Interpreting contracts and technical information
- Reporting work progress and budget matters
- Collaborating with architects, engineers, and other construction specialists
- Selecting and coordinating subcontractors
- Responding to work delays, emergencies, and other problems
- Complying with legal requirements, building and safety codes, and other regulations

- From: <http://www.bls.gov/ooh/Management/Construction-managers.htm#tab-2>

Accomplishing these job tasks requires
constant communication.

TYPICAL ACADEMIC PREPARATION:

**A B(A)S OR A(A)S IN CONSTRUCTION
MANAGEMENT**

**CONSTRUCTION MANAGEMENT
IS AN APPLIED DEGREE**

BUT . . .

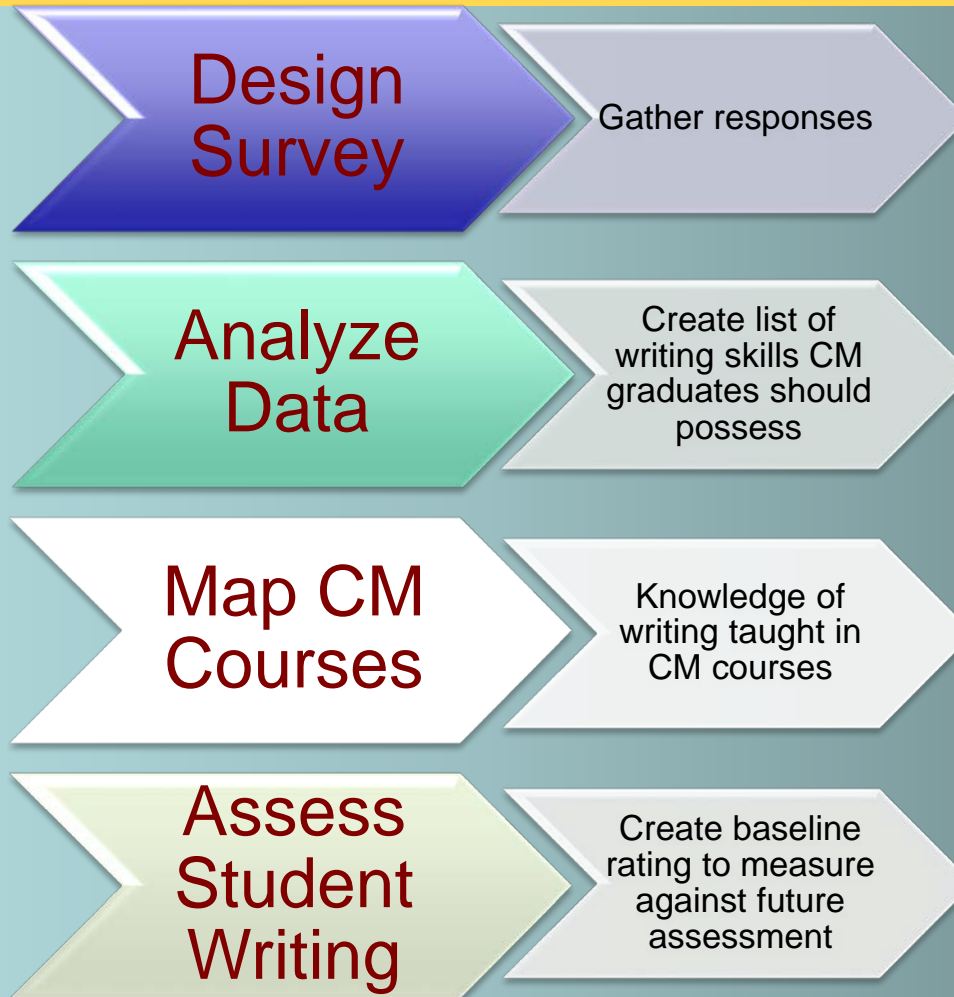
SOME COME FROM THE FIELD AND “MOVE UP”

Typical Courses in Construction Management Bachelor's Programs

- Construction Documents and Contracts
- Construction Planning and Scheduling
- Construction Cost Estimating
- Construction Accounting
- Construction Management Internship
- Building Systems
- Construction Materials for Managers
- Construction Safety and Loss Control
- Specification and Technical Communication
- Building Energy Systems
- Building Envelope Design
- Building Codes

**IN 2011, CONSTRUCTION
MANAGEMENT PROGRAM JOINS
UMN'S WRITING ENRICHED
CURRICULUM (WEC) PROJECT**

MISSION:
DEVELOP A WRITING PLAN ENCOMPASSING THE *ENTIRE*
CURRICULUM





**Design
Survey**



**Gather
responses**

**Three Sources:
Students, Faculty, Industry**

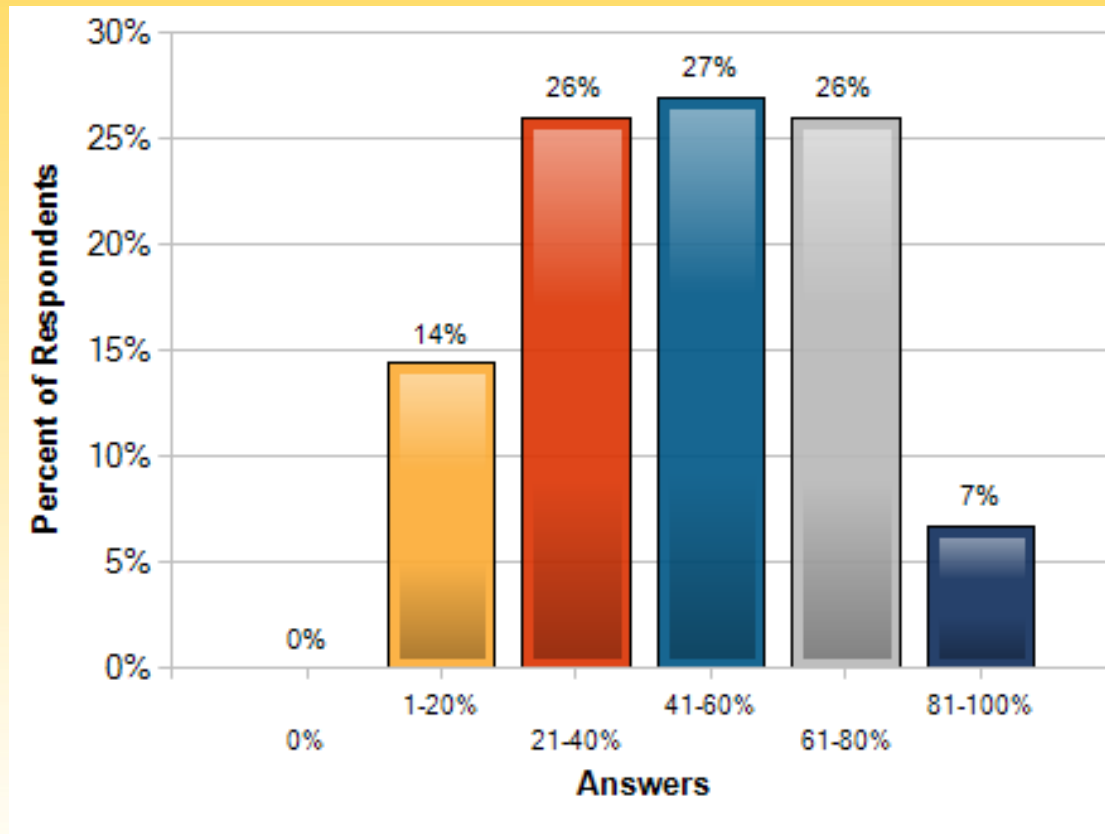
Survey Results from Construction Professionals:

WHAT DO MANAGERS WORKING IN THE CONSTRUCTION INDUSTRY SAY ABOUT WRITING?

Survey Results from Construction Professionals:

- Questionnaire delivered electronically
- Response rate **59%** (104 of 175)
 - 67% of those working as executives and project managers
 - Sourced from Advisory Board tapping their networks
- 45 questions seeking
 - 5 demographic information
 - 35 quantitative information
 - 5 qualitative information

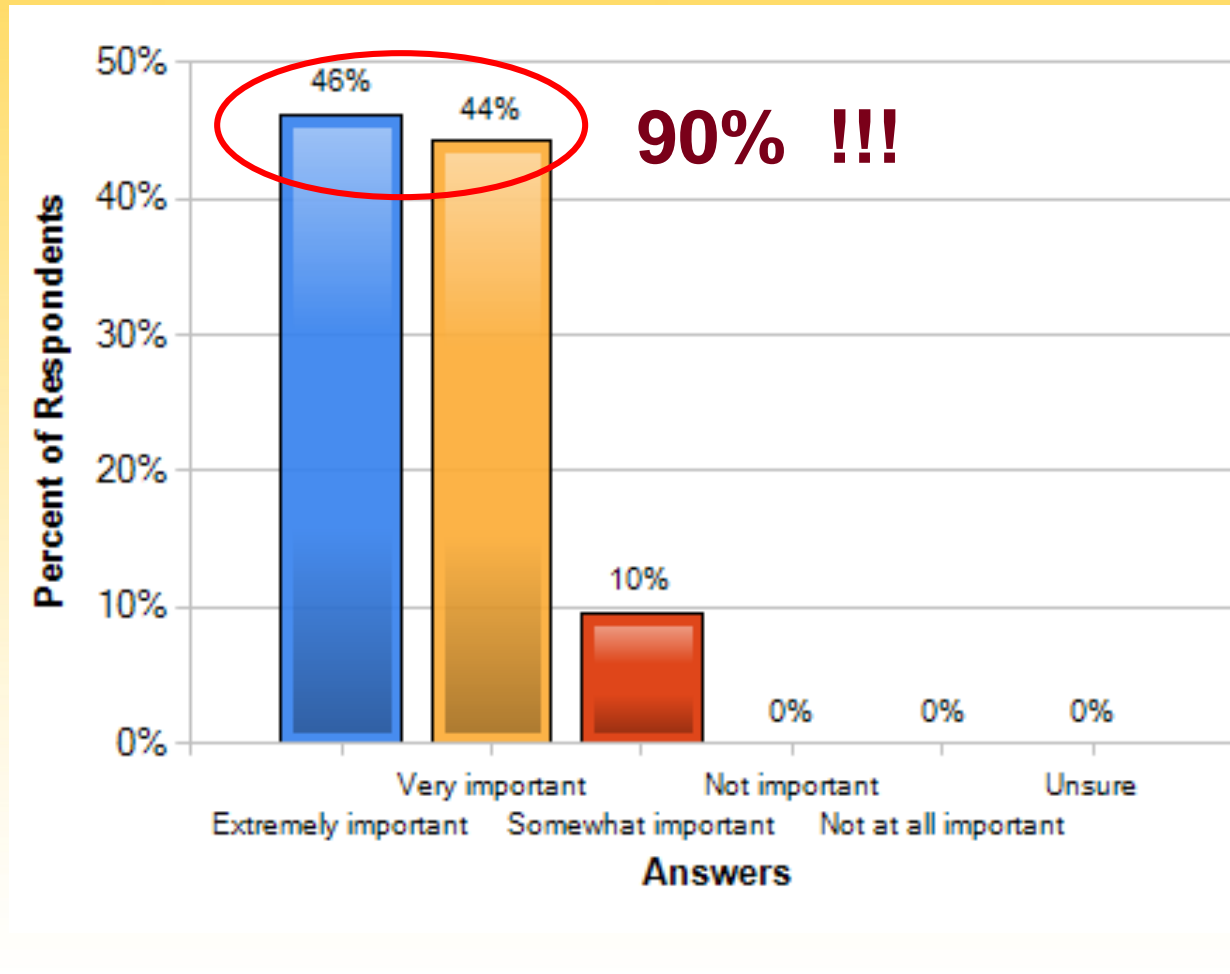
Q: Approximately how much of a Construction Manager's job involves writing?



A: Managers in the construction industry write constantly as an essential part of their job

- *“I write every single day. The writing has to be clear and objective, and communicate my intent without any misinterpretation.”*
- *“Everyday, you have to communicate with subcontractors, owners and potential clients. If you cannot write at least somewhat intelligently, people lack trust and confidence in your work.”*

Q: How important is writing to the successful fulfillment of your work responsibilities



A: Why writing is important!

- **Company Reputation**

- *“Lack of proper reading and writing skills displays a poor example for our clients, vendors, employees and other stakeholders of our company.”*

- **Reduced Costs**

- *“A high level of communication establishes and maintains expectations, while minimizing errors and misunderstandings.”*

- **Regulation Compliance**

- *“Government approval processes involve writing that is critical to portray the project in an accurate manner.”*

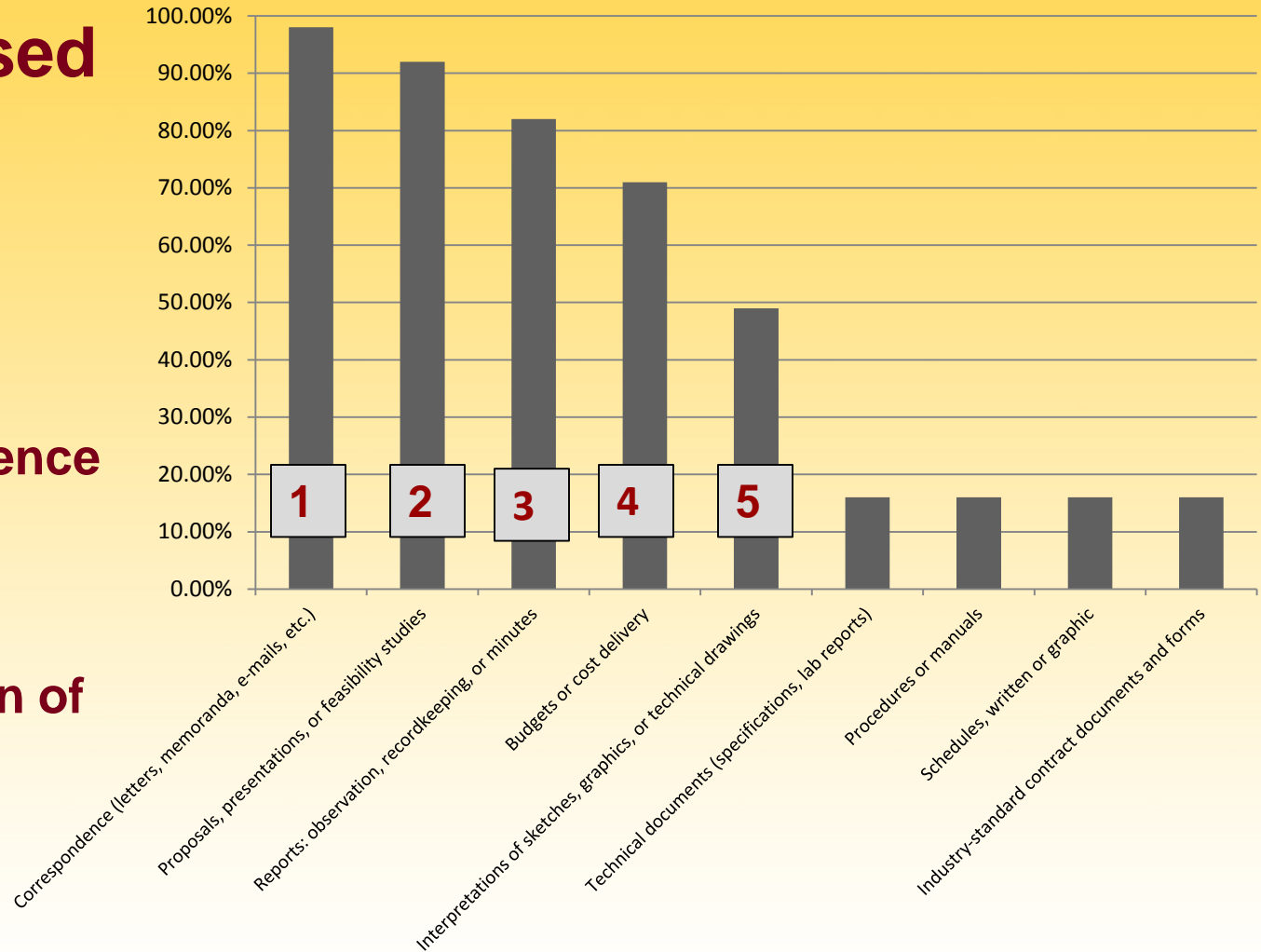
- **Personal Success**

- *“I have received promotions because of my writing ability, while witnessing talented colleagues held back because of poor writing skills.”*

Q: What is written in this field?

A: Most Used Genre

- 1) Correspondence
- 2) Proposals
- 3) Reports
- 4) Budgets
- 5) Interpretation of drawings



A: The top 3 industry-standard writing genres

1. Correspondence (98%)

– *letters, memoranda, e-mails, etc.*

2. Proposals, presentations, or feasibility studies (87%)

3. Reports (82%)

– *observations, recordkeeping, minutes, etc.*

Q: In your opinion, which of the following characteristics are particularly descriptive of writing in your field?

- **89%: Descriptive:** conveying processes, objects, data, environments, etc.
- **71%: Analytical:** emphasizing the logical examination of subject(s)
- **67%: Explanatory:** translating complex content into comprehensible definitions and/or instructions
- **50%: Argumentative:** positioned to persuade readers
- **49%: Scientific/Technical:** emphasizing accurate, complex, and relatively objective information, data, formulas, etc.
- **47%: Critical:** interpretive and evaluative of others' works and ideas

A: Writing Skills Not Commonly Used

- **34%: Innovative:** approaching subject in fresh and possibly imaginative ways
- **26%: Collaboratively authored:**
- **14%: Thesis-driven:** focused on evidencing one or more key argument(s)
- **13%: Exploratory:** ideas that are developed and associated in a stream-of-consciousness pattern
- **07%: Expressive:** emphasizing personal feelings and impressions

Q: Which of these writing abilities would you expect new employees from college to have when they join your organization?

- **89%**: Using correct grammar, spelling, and mechanics (punctuation, etc.)
- **78%**: Creating concise summaries of ideas, texts, or events
- **69%**: Creating precise descriptions of processes, objects, findings, environments, etc.
- **68%**: Appropriately using the field's terminology and formats
- **59%**: Explaining processes or data to non-academic audiences
- **49%**: Analyzing and/or evaluating ideas, texts, or events

A: Less needed writing abilities of recent graduates...

- **35%**: Persuasively arguing a position using a central thesis or hypothesis and evidence
- **35%**: Reporting complex data or findings
- **28%**: Smoothly integrating and correctly citing information from well-chosen sources

A: Recent Construction Management degree program graduates will not have to prove proficiency in the follow writing abilities:

- **15%**: Using writing to develop and deepen thinking
- **11%**: Co-authoring texts with one or more writer(s)
- **4%**: Expressing feelings or impressions
- **1%**: Crafting literary works, such as fiction, memoir, essay, poetry

Analyze
Data

Create list of
writing skills
CM graduates
should possess

CM Program Developed 6 Writing Abilities Graduates Should Possess

1: Communicate clearly:

Articulate problems, proposals, procedure or policy using concrete unambiguous language.

2: Use evidence:

Habitually maintain and comprehensively recall, analyze and cite documents, records, notes, data and independent research in support of critical thinking.

3: Solve problems and conflicts effectively:

Recite, assess, evaluate, interpret and communicate complex problems and conflicts objectively.

4: Understand and connect with stakeholder concerns:

Inspire confidence by demonstrating thorough knowledge, using language, tone and authentic voice appropriate to the stakeholder perspective.

5: Correctly apply industry standard documents:

Read, create, modify, interpret, and correctly apply drawings, industry standard contracts, documents and forms.

6: Clearly present technical material:

Demonstrate mastery and proper application of technical terminology, tools, jargon, and software appropriate to a stakeholder's ability to understand.

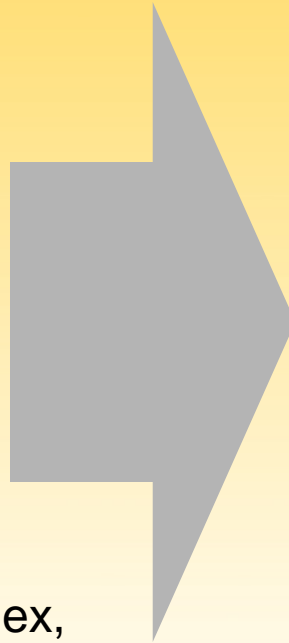
How Industry Survey Results Were Integrated Into the Six Defined Writing Abilities

Let's Look at one example, Writing Ability #6:

Clearly Present Technical Material

Q: Characteristics particularly descriptive of writing in your field?

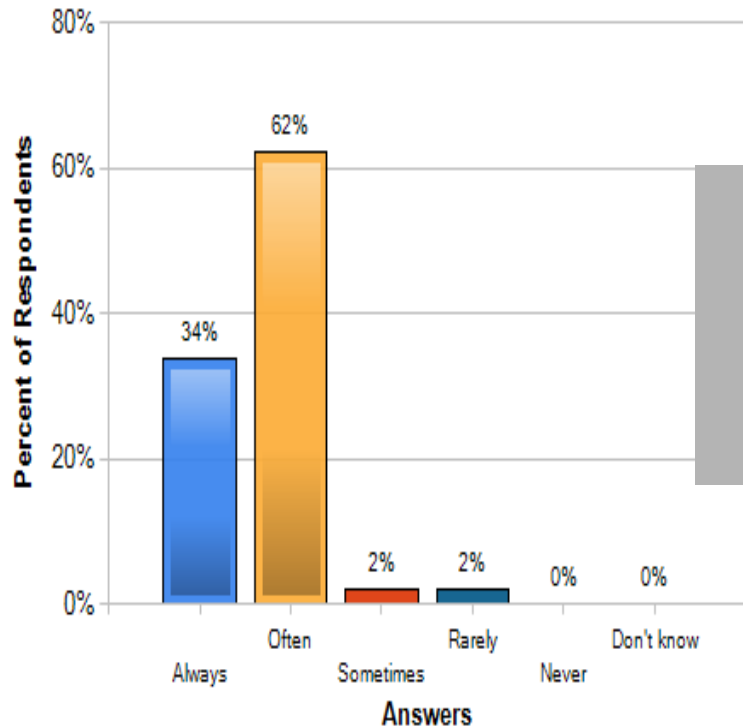
- **Descriptive:** conveying processes, objects, data, environments, etc.
 - 89%
- **Explanatory:** translating complex content into comprehensible definitions and/or instructions
 - 67%
- **Scientific/Technical:** emphasizing accurate, complex, and relatively objective information, data, formulas, etc.
 - 49%



6: Clearly present technical material:

Demonstrate mastery and proper application of technical terminology, tools, jargon, and software appropriate to a stakeholder's ability to understand.

**Q: In your professional writing, how frequently do you do the following:
*Use field-specific terminology and formats?***



6: Clearly present technical material:

Demonstrate mastery and proper application of technical terminology, tools, jargon, and software appropriate to a stakeholder's ability to understand.

Q: What is expected from a recent graduate/new hire?

68% of respondents say they would expect:

Appropriately using the field's terminology and formats



6: Clearly present technical material:

Demonstrate mastery and proper application of technical terminology, tools, jargon, and software appropriate to a stakeholder's ability to understand.

Qualitative Influence

“While writing in a general form is highly desirable, additional training (or lack thereof) in technical jargon continues to be a large issue. It is a daunting decision to hire someone knowing full well that your first year of expense will be going towards teaching the employee how to ‘talk the talk’. Colleges and Universities need to train students in this. The cost to a company to hire an employee and train them is enormous, especially when an employee is not committed to a specific sub-genre within the construction industry.”

6: Clearly present technical material:

Demonstrate mastery and proper application of technical terminology, tools, jargon, and software appropriate to a stakeholder's ability to understand.

Map CM
Courses

Gain knowledge
of writing taught
in CM courses

Question: What are the most commonly executed industry writing genre presently taught in the CM curriculum?

Descriptive Statistics of CM Course Writing Assignments (N=20)

Genre of Writing	Minimum	Maximum	Sum	Mean	Std. Deviation
Reading	0	12	114	5.7	3.962
Correspondence	0	10	45	2.25	3.059
Presentation/Proposal	0	11	43	2.15	2.39
Graphics	0	7	32	1.6	2.415
Other (reflective writing)	0	12	32	1.6	3.267
Reports	0	15	27	1.35	3.36
In-class write	0	13	23	1.15	3.313
Budgets	0	12	21	1.05	2.762
Essays	0	7	18	0.9	1.683
Schedules	0	9	16	0.8	2.142
Documents	0	4	10	0.5	1.1
Research Paper	0	2	8	0.4	0.681
Technical	0	2	8	0.4	0.681
Manuals	0	2	3	0.15	0.489

Program Alignment:

Industry writing

- correspondence **1.**
- presentations/proposals **2.**
- reports **3.**
- budgets or cost delivery **4.**

Writing assigned in CM courses (*out of 14 writing genres*)

- 1.** reading comprehension
- 2.** correspondence
- 3.** presentation/proposals
- 6.** reports
- 8.** budgets or cost delivery

**BETTER THAN EXPECTED, SOME ADJUSTMENT NECESSARY
LESS READING COMP, MORE WRITING**

**Assess
Student
Writing**

Create baseline
rating to measure
against future
assessment

Initial Rating of Student Writing Results Before Plan

3 Raters: one faculty, one industry, one “outside” applying a 0 -1.0 scale: 1.0 = highest score/good

- 0.90:** *“The issue, problem, or conflict is recited or summarized without bias,”*
“Portrays arguments or issues using the writer’s authentic voice.”
- 0.83:** *“Applies data, research, and records to critical analysis and/or problem-solving.”*
- 0.48:** *“Adequately references data, research, and records”*
- 0.33:** *“Uses complete and consistent citation for written content where completeness means that readers could track down all referenced sources”*
- 0.29:** *“Integrates precise citation and interpretation of drawings, contract documents, and forms”*

Next Steps

- Continue to work with faculty to implement appropriate writing assignments consistent with the writing plan
- Engage second post-plan writing assessment (this summer) to measure plan progress
- Develop on-line, mobile ready, open source Student Writing Style Guide specific to the industry (under development, Fall roll-out)
- Develop resource to help adjunct faculty teach about and with writing (next year)

Feedback, Impressions, Comments, Questions?

For more Information, this was published in the
International Journal of Construction Education and Research
<http://www.tandfonline.com/eprint/iUEQPXW5xvc93RpjJkM8/full>

Thank You!

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