How to use informal writing to promote active learning

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Active learning matters

Active learning is an approach to instruction that involves actively engaging students with the course material through

- discussions,

- problem solving,

- case studies,

- role plays and

- other methods.

Active learning approaches place a greater degree of responsibility on the learner than passive approaches such as lectures, but instructor guidance is still crucial in the active learning classroom.

Active learning activities may range in length from a couple of minutes to whole class sessions or may take place over multiple class sessions.

(source)

Lectures by themselves are ineffective

Richard M. Felder (chemical engineer, NSCU) explains:

Of all instructional methods, lecturing is the most common, the easiest, and the least effective.

Unless the instructor is a real spellbinder, most students cannot stay focused throughout a lecture: after about 10 minutes their attention begins to drift, first for brief moments and then for longer intervals; they find it increasingly hard to catch up on what they missed while their minds were wandering; and eventually they switch the lecture off altogether like a bad TV show.

He includes an alarming statistic:

...immediately after a lecture students recalled 70% of the information presented in the first ten minutes and only 20% of that from the last ten minutes. (p. 18)

The problem with lectures is not undergraduates

Writing about medical students, but citing broader studies on adult learners, Cooper and Richards report:

> Adult learner retention rates after traditional lectures have been estimated at a dismal 5%.

They add that:

> …adult learning data suggest that typical learner attention span wanes after about 15 to 20 minutes. (p. 376)

Active learning works

Cooper and Richards report:

> Identifying opportunities for engagement and interactivity during lectures enhances content retention and relevancy.
>
> The evidence for active learning is compelling; numerous positive studies involving learners of different levels in many different contexts have demonstrated the effectiveness of active learning vs passive lecturing. 15-23

They cite a meta-analysis of 225 studies that compared outcomes in undergraduate STEM classes and found:

> Student performance on examinations significantly improved in classes incorporating active learning, with an average increase in scores of approximately 6%.
>
> Traditional lectures were associated with a 1.5-fold increase in the risk of failing.
>
> (Cooper & Richards, p 378)

Exercise: Take a moment to write

In your own words, please write 2-3 key ideas covered in this workshop so far.

Informal writing promotes active learning

Courses which regularly give students opportunities for informal (low-stakes, ungraded or minimally graded) writing give them opportunities:

- to rephrase course content in their own words

- to make tentative connections

- to hypothesize

- to inventory current knowledge

- to make mistakes they can learn from, and

- to articulate questions

Ungraded writing also temporarily relives student obsession with surface correctness.

Students begin to see writing as a tool they can use, rather than as just an occasion for numerous small failures.

Research shows benefits of informal writing

We have many studies, spanning decades, showing benefits in specific subject areas.

For example, Drabick *et al.* did a controlled study with 978 psychology students, wherein:

- Students in some sections were asked to do free writing about each day's topic, then discuss it

- Students in the control sections were asked to think about each day's topic, then discuss it

They report:

Students in the writing condition attended class more often and performed better on factual and conceptual multiple-choice exam questions than students in the thinking condition, even after controlling for measures of student quality.

The results suggested that brief free writing improved factual and conceptual learning. (p. 172)

Research shows benefits of informal writing

We also have large-scale, quantitative studies that connect certain pedagogical practices to deeper and more enduring student learning.

A study by Anderson *et al.* included

- 29,634 first-year students and

- 41,802 seniors at

- 80 USA baccalaureate-granting colleges and universities

They found three aspects of teaching that are particularly effective:

- Having students engage in interactive writing processes,

- Having students do meaning-making writing tasks, and

- Offering clear writing expectations

Informal writing activities differ from traditional assignments in a few ways

Traditional Assignments:	Informal Writing Activities:
Assigned as homework (often a relatively lengthy paper or report)	Impromptu, often completed in class, may also be homework, often short (less than a page)
Process → product (student's intellectual work finished when the product is turned in)	Process → more process (writing = thinking, leading to more thought)
Grade in A/B/C/D/F basis by teacher (i.e. heavy investment of teacher's time)	Ungraded, with credit given or not given based on clear criteria (**i.e. less formal grading by teachers**)
Writing to test (students' writing/thinking is right or wrong)	Writing to think (intellectual engagement is a goal; errors are a natural part of learning)
Students should be sure about what they write ("What's your thesis?" "Support your claim with evidence.")	Allows students to voice and explore questions
Students see writing assignments as testing or penalty situations	Students see writing as a tool, a way to help them think about new material and learn information and concepts

Exercise: Take a moment to write

In your own words, please write 1-2 reasons you might use informal writing in your classes.

Example 1: Opening recall, and three points and a question

Start class by having students write down what they remember as important from the previous class.

During or at the end of a lecture, have students write down three things they understand and one question they have.

If you use this during lecture, responses can be used to start a discussion and help you check for understanding.

Benefits:

- Recalling ideas or information from the previous class session helps cue up the relevant cognitive domain for students. This in turn helps them connect today's class content with what came before.

- Knowing they will be asked to write down key points has been shown to help students listen and take notes more purposefully.

- You can review their questions and address common points of confusion or interesting queries in the next class, or on Canvas.

Example 2: Key word focus

Broad focus:

1. Give students a word that is important for their understanding your field.

2. Have them write down all the associations they can think of, both from their readings and from their lives.

   They can do this in sentences, or with clustering, where they write the word in the middle of a page, then jot down related words and indicate relations with arrows.

3. Have them continue until they run out of associations.

Narrower focus:

1. Give them a definition that includes the different meanings the word might have.

2. Ask them to think and write about the possible implications of the different meanings.

Example: <u>Sublimate</u> (verb):

- to divert the expression of (an instinctual desire or impulse) from its unacceptable form to one that is considered more socially or culturally acceptable

- to pass directly from the solid to the vapor state

Exercise: List key terms

Brainstorm a list of key terms you want students to understand.

Example 3: Microthemes

A microtheme is "a very short piece of formal, closed-form writing usually less than 250 words" (Bean, p. 111)

Microthemes:

- Help students **learn and practice** particular ways of thinking and writing

- Can be **read and responded to quickly** (especially if they are ungraded, or credit/half/no credit)

- Are short enough that you can **share good examples** (with student permission) via Canvas, or in class.

Microthemes can **support specific skills**, either on their own or as practice for aspects larger pieces.

Bean, Drenk, and Lee describe four kinds of microthemes:

- Summary Microtheme

- Thesis-Supported Microtheme

- Data-Provided Microtheme

- Quandary-Posing Microtheme

Each kind of microtheme emphasizes a particular thinking skill

Summary Microtheme

Students write a 100-200 word summary of an article, which is a cognitively difficult task.

Students **identify the structure** of the article, **identify the relationships of ideas and details**, and **condense the whole**, eliminating details and retaining main ideas.

Thesis-Support Microtheme

Students **take a position** on a topic, **make an assertion** about the topic and **support the assertion** concisely with appropriate details, empirical evidence, reasoning, and/or appeals.

This exercise not only promotes critical thinking but also reminds students of what is and is not known in the discipline.

Data-Provided Microtheme

You give students a data set and ask them to **discover a general thesis or observation on the data set**.

This exercise improves deductive reasoning and may prepare them to write the discussion section of a scientific paper.

Quandary-Posing Microtheme

Students use scientific, social scientific, or humanities principles to **explain a problematic situation or occurrence**, writing in language that an ordinary person could understand.

This exercise gives them practice in communicating with non-specialist audiences while putting abstract or complex concepts into everyday language.

Breakout exercise: Write and discuss when and how you can use microthemes in a specific class (but first download the Microtheme handout, which has this information)

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Agenda

➢ Active learning matters
➢ Informal writing promotes active learning
➢ Example 1
➢ Example 2
➢ **Example 3**
➢ More examples
➢ Questions
➢ References

Handout with more examples

The handout is attached in the chat (or will be in a few seconds).

You can also get a copy by emailing me at:

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Questions?

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References

Anderson, Paul, et al. "The Contributions of Writing to Learning and Development: Results from a Large-Scale Multi-Institutional Study." *Research in the Teaching of English*, vol. 50, no. 2, 2015, pp. 199–235.

Bean, John C. *Engaging Ideas: The Professor's Guide to Integrating Writing, Critical Thinking, and Active Learning in the Classroom*. Second edition, Jossey-Bass, 2011.

Bean, John C., et al. "Microtheme Strategies for Developing Cognitive Skills." *New Directions for Teaching and Learning*, vol. 12, 1982, pp. 27–38.

Cooper, Avraham Z., and Jeremy B. Richards. "Lectures for Adult Learners: Breaking Old Habits in Graduate Medical Education." *The American Journal of Medicine*, vol. 130, no. 3, Mar. 2017, pp. 376–81.

Drabick, Deborah A. G., et al. "Keeping It Short and Sweet: Brief, Ungraded Writing Assignments Facilitate Learning." *Teaching of Psychology*, vol. 34, no. 3, 3, 2007, pp. 172–76.

Gottschalk, Katherine K., and Keith Hjortshoj. *The Elements of Teaching Writing: A Resource for Instructors in All Disciplines*. Bedford/St. Martin's.

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- **References**