

Types of Writing Assignments in Large Science Classes (Living Document)

Approach to Writing	Known/Perceived Advantages	Known/Perceived Disadvantages	Examples
Long Writing Assignment	-gives students practice in discipline-specific writing that closely resembles professional academic writing -students must construct and order logical arguments -writing intensive courses can improve student confidence about writing in their discipline	-marking can take a lot of time, including time for grading grammar/technical English (Note: assessment style can reduce time, e.g. Boyd <i>et al.</i> 2010 - minimal marking, holistic rubric, 2-3 feedback comments per paper) -providing appropriate assignment scaffolding requires time, creating a trade-off between writing skills and course content -students may lack skills for reading scientific literature	-Comprehensive or argumentative essay -Journal article -1000+ word essays (Boyd et al. 2010)
Short Writing Assignment	-forces students to be concise, which can require more planning and thinking than longer assignments -makes detailed marking manageable, less time to mark -communicating ideas in brief written pieces is a useful format for future employment	-some can still require considerable time marking, including time for grammar, technical English	-Press release (Robin Young, BIOL200) -500 word essays evaluating paired scientific articles (Ng <i>et al.</i> 1999) -100-200 word summaries or descriptions of chemistry topics (Cooper 1993)
Writing short pieces for non-specialist audiences	-familiarization with an important course concept -focus on clearly explaining scientific concepts (sometimes rather than grammar,	-sometimes only one concept is covered in detail	- Youtube Scripts (Franz 2012) -Press release (Robin Young, BIOL200)

	depending on the assignment) -forces students to be concise -informal assignments require plain language, cuts down on jargon		- Lay summaries of journal articles (Brownell et al. 2013) - Song-writing assignments (Crowther 2012)
Writing questions or short answers to questions	-allows students to think about how to formulate an answer and why some answers are better than others -students practice writing, sometimes without taking much longer than other active learning activities (e.g. Clicker questions) -helps instructor to identify and focus on areas where students are struggling -receive feedback from all students, not only vocal ones -maximizes time students spend thinking about concepts, less time writing -can be used to generate class discussion -can encourage attendance -can be marked for participation	-takes away from time to cover content -students may feel that the writing is too short to help develop their writing skills	-1-2 sentence answers, later used in clicker questions (Robin Young BIOL200) -Hypothesis writing or 25 word definitions -Written explanation to a question posed by a peer (Cooper 1993) -brief responses to lecture-related questions, microthemes (Schmidt et al. 2002)

References

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