**Choosing a Writing Assignment**

The specific learning objectives you have in mind for your students should dictate the type of assignments you ask them to complete, but all assignments have potential advantages and disadvantages (for students and for instructors). As a result, it is important to be aware of these when choosing the most effective type of writing assignment for your class.

You may ask students to complete one of four main types of writing assignment. Examples of these appear below, along with the likely advantages and disadvantages.

**Long Writing Assignments**

Long writing assignments should be the main focus of a course’s assessment, given that they will take students a long time to complete. Examples include lab reports in the format of journal articles, and ≥ 1,000-word essays that require students to integrate relevant sources from the literature and/or argue a position based on sound reasoning. Long writing assignments can be scaffolded (broken into a series of related assignments) to help students dedicate the necessary time to produce a polished final product, which they may not do if they are left to produce one big piece of writing without guiding steps along the way.

**Strengths**

* Students gain practice in discipline-specific writing that closely resembles professional academic writing (e.g. scientific journal articles that are written after scientists conduct research).
* Students must construct and order logical arguments, learning about their writing process as well as developing content knowledge associated with their courses and specialist disciplines.
* Students can enhance their confidence in writing about their discipline due to the greater focus – and time spent – on writing long essays and lab reports.

**Challenges**

* Marking/grading can take a lot of time, especially when you need to focus on grammar/technical English. However, you can reduce marking time by adapting your assessment style. For example, a holistic rubric will help you to focus on the quality of the whole assignment1, rather than individual writing components, and allow you to provide just two or three feedback comments per paper.
* Providing appropriate assignment scaffolding requires time, which creates a trade-off between focusing on developing writing skills and on delivering detailed course content.
* Teaching students how to search, read and interpret the scientific literature can take a lot of time, because many students will lack the required skills, not having had to use them much before.

**Short Writing Assignments**

Short writing assignments can be integrated throughout a course and can expose students to a variety of different tasks. Examples include 500-word essays that evaluate paired journal articles2, or content-based summaries of discipline-specific topics3.

**Strengths**

* Force students to be concise, which can require more planning and thinking than longer assignments. It may also impress on them the need to create and use writing outlines to help shape their work.
* Instructors can still ask students to construct logically sound scientific arguments (e.g. ask them to provide a detailed outline rather than the essay it would guide).
* Help students spend appropriate time on one large writing assignment if these short writing assignments are scaffolded as part of that larger piece of work.
* Focus on developing particular writing skills by tailoring the goal of the assignment
* Make detailed marking more manageable, because each assignment should take less time to mark.
* Develop useful life skills, because communicating ideas in brief written pieces is a useful format for whatever future employment students pursue.

**Challenges**

* Some can still require considerable time to mark/grade, relative to other assignment types, especially when you are providing detailed comments on grammar and technical English.
* Might not expose students to in-depth, detailed work if the course or subject is relatively broad in scope, which might mean they do not engage as deeply with their discipline as would be ideal.

**Assignments Targeted at Non-Specialist Audiences**

Writing assignments that are targeted at non-specialist audiences can be of varying lengths, but are typically much shorter than the long writing assignments and no longer than the short writing assignments discussed above. Examples include press releases or lay summaries based on journal articles4, blog posts, YouTube scripts5, and even song-writing assignments6.

**Strengths**

* Familiarize students with an important course concept and topic, by requiring them to engage with the literature specific to their discipline and to learn how to simplify complex scientific concepts.
* Provide a focus on clearly explaining scientific concepts, which is sometimes more important than displaying a perfect grasp of grammar.
* Force students to be concise and use succinct sentences that contain everyday comparisons and descriptions.
* Require plain language, which helps students to learn how to cut down on their use of jargon.
* Engage students in their assignments because they are likely to see the real-world significance of the task as well as underlining how complex science can be adapted to interest non-specialists.
* Improve students’ ability to interpret complex journal articles and communicate these to lay audiences4.

**Challenges**

* Sometimes only one concept is covered in detail.
* Students may learn new skills and techniques but the writing requirements for non-specialist assignments do not necessarily focus on the writing skills needed to excel in discipline-specific writing, such as journal articles.

**Short Written Answers to Individual Questions**

Regular, short-answer questions that require written responses can be built into a course as a regular element of each class. Examples include writing a thesis and supplying reasons and evidence to support it, writing hypotheses for possible experiments, writing explanations to answer peers’ questions, compiling brief responses to lecture-based *microthemes*7, or providing single-sentence answers to questions based on lab work.

**Strengths**

* Allow students to think how to formulate answers, and to consider why some answers are better than others
* Provide students with the chance to practice writing, sometimes without taking much longer than other active learning activities (e.g. clicker questions)
* Help instructors to identify and focus on areas where students are struggling
* Allow instructors to receive feedback from all students, not just the more vocal ones, which is useful in assessing how each student is progressing
* Maximize the time that students spend thinking about concepts by reducing the time spent writing
* Can be useful to get students thinking and to generate class discussion
* Encourage attendance if they are built in to every class (particularly when a small portion of the course grade is attributed to these), and can even be used to monitor student attendance

**Challenges**

* Take away from time that could be used to cover content
* May be insufficient to help students develop all aspects of their writing skills, particularly in relation to discipline-specific journal articles/lab reports

**Useful References and Further Reading**

**1:** Boyd J. The best of both worlds: the large lecture, writing-intensive course. Comm Teach. 2010; 24(3):229-237.

**2:** Ng J, Lloyd P, Kober R, Robinson P. Developing writing skills; a large class experience: a teaching note. Account Educ. 1999; 8(1):47-55.

**3:** Cooper MM. Writing: an approach for large-enrollment Chemistry courses. J Chem Educ. 1993; 70(6):476-477.

**4:** Brownell SE, Price, JV, Steinman L. A writing-intensive course improves biology undergraduates’ perception and confidence of their abilities to read scientific literature and communicate science. Adv Phys Educ. 2013; 37(1):70-79.

**5:** Franz AK. Organic Chemistry YouTube writing assignments for large lecture classes. J Chem Educ. 2012; 89:497-501.

**6:** Crowther G. Using science songs to enhance learning: an interdisciplinary approach. CBE Life Sci Educ. 2012; 11(1):26-30.

**7:** Schmidt SJ, Parmer MS, Javenkoski JS. Sharing our experiences with writing-for-learning techniques in a large introductory course: the daily microtheme. J Food Sci Educ. 1:28-33.