

Teaching Time Savers: Using Checklists in Project Assessment

By George Ashline

In my undergraduate teaching, I have used a variety of individual and group projects to provide students with opportunities to explore relevant topics not explicitly discussed in class. Some topics dig deeper into course concepts, while others examine areas which extend the class syllabus.

For example, in non-major courses such as Introductory Statistics, my students regularly complete group projects ranging from descriptions of self-selected data sets to inferential analysis of a population of interest using self-generated sampling data. In courses for majors and minors such as History of Mathematics and Number Theory, my students investigate more advanced subjects and share their results through papers and presentations.

Over the years, these projects have provided students with experience in researching topics and communicating technical analysis in oral and written fashions. Project reports, however, have been a considerable challenge to assess, especially given their qualitative aspects. I have found this challenge becomes less formidable when I describe in checklist form the areas of emphasis in my evaluation.

In my project handouts, I underscore specific components that students should keep in mind for their final oral or written report. Some more general factors include:

- Descriptive title for a relevant topic, indicating its connection to the course;
- Organization, including introduction, identification of and transition between main points, conclusion;
- Mathematical content, using proper definitions, examples, and results;
- Context and relationship to concepts from current course or other course(s);
- Appropriate citations and bibliography;
- Suitable grammar and notation;
- Effective delivery style, including clarity, creativity, pace, delivery; and
- Overall length within a reasonable range (given as an expected number of pages for a written work or an expected duration for an oral presentation).

The checklist provides students with a framework for their project work. When students seek help from me, the framework is valuable in measuring progress and suggesting areas in need of further attention. After collecting project proposals (early on) and outlines (about half-way to the due date), I offer students advice on how well their work is coming together and meeting framework standards.

Given the checklist, I decide how heavily each component will affect overall project grade, then use these categories to assess the

overall quality of the final report. These checklists can become the basis of a more formal rubric, if desired. After considering each final report, I provide feedback in each category and assign an overall letter grade to each project. I find this approach effective for sharing my assessment. Its structure confirms and reinforces the checklist in the initial handout.

These checklists have been helpful in explicitly communicating project expectations to students. They provide scaffolding to help students break down the overall task into more manageable pieces. After collecting final reports, checklists help to streamline assessment and provide consistent evaluation criteria for each student or group.

Time spent: About thirty minutes to initially create a detailed checklist for a given project.

Time saved: Due to clearer expectations and organizational guidance, perhaps a reduction in project assessment and student meeting time by one third. For instance, the assessment time for one group's significant elementary statistics project is roughly reduced from 30 to 20 minutes. A normal 15 minute meeting with an individual/group may last 10 minutes or less due to more focused questions and discussion. A similar reduction in time is experienced in more focused e-mail communications. 🌟

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Teaching Time Savers are articles designed to share easy-to-implement activities for streamlining the day-to-day tasks of faculty members everywhere. If you would like to share your favorite time savers with the readers of MAA FOCUS, then send a separate email description of each activity to Michael Orrison at orrison@hmc.edu. Make sure to include a comment on "time spent" and "time saved" for each activity, and to include pictures and/or figures if at all possible.