BOARD # 48: A Study in Rubric Design: De-Coupling Assessment Feedback and Evaluation Scoring for a Technical Writing Assignment

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ABSTRACT

Developing an objective evaluation rubric de-coupled from assessment feedback has historically been underutilized in civil engineering classrooms. As pedagogical methods continue to evolve towards project-based and open-ended experiences, opportunities to engage students in the iterative revision process are becoming increasingly advantageous. Many professors rely on grading systems focused primarily on evaluative criteria, resulting in scores which are used to determine course letter grades. Students may accept the feedback offered in graded assignments or solution keys, but engagement is less focused on improvement for the immediate learning value. Especially in writing assignments, students can become discouraged by lower grades and may not be receptive to reviewer feedback which can feel like a personal, subjective attack. While some forms of evaluation include elements of assessment, this document argues de-coupling provides students with additional opportunity to develop and demonstrate understanding without the pressure of grade-related summative judgement. A dual-purpose rubric was designed for a technical writing assignment to allow for a simultaneous evaluation and assessment experience. Applying the de-coupled design to graded assignments is hypothesized to improve students' perceptions of the iterative revision process common to the civil engineering discipline and induce a growth mindset in students as they receive professor feedback for implementation in later assignments. The fundamentals applied in developing the rubric are transferable to computational, analysis, or design assignments seeking to engage students in iterative effort such as revision, refinement, or optimization. The following report presents development of the de-coupled rubric, supported by current literature, discusses a pilot implementation, and summarizes an assessment strategy for long-term adoption in a sophomore level technical writing course.

Introduction

A technical writing assignment grading rubric was refined to intentionally interrupt the emotional relationship between assessment and evaluative feedback. Technical writing assignments can be challenging for both students and faculty because of the sensitive relationship between an author and their content. In the civil engineering profession, writing performed by practicing engineers is an iterative process during which a junior engineer is often required to draft content, request review from a senior engineer, and engage in an iterative process of revision. Formal training to prepare students for the professional responsibility can be offered in a class experience, supported by in-class lessons and an integrated textbook. Many writing courses are well designed to teach students the standard practice by sequencing them through drafting, submitting, and refining to complete a revision cycle. However, students tend to struggle with writing experiences in ways uniquely different from other types of graded assignments. In many grading situations, students are provided feedback which can be categorized as evaluative, defined as a summative assessment of a final performance. Computational assignments in engineering courses offer a score which is intended to represent learning achieved and the priority is offering a score which can be integrated into the larger course grading scheme. In those experiences, assessment, or formative, feedback might be offered through solution keys or even notes clarifying the reason points were deducted in an assignment. Returned graded materials including both assessment and evaluative feedback are successful in numeric-based assignments because most of the processes are objective and a clear solution arrived from a prescribed method is often inarguable. Written assignments are also often graded in a combined effort to provide assessment feedback in the form of review comments while also determine evaluative feedback as a final score applied to the student's grade. The receipt of both assessment and evaluation in the context of a written assignment, for which an individual has vested a more personal uniqueness, may cloud a student's opinion of feedback which often needs to be integrated into a follow-up revision assignment. Undergraduate students have trouble in revising written work, and we hypothesize disrupting the evaluation and assessment process may promote a more positive experience and therefore relationship with the iterative writing process. Evaluation and assessment feedback were isolated, as we termed de-coupled, for a technical report assignment to remove the emotional relationship between a grade (evaluative feedback) on a paper and the burden of revision according to individualized reviewer comments (assessment feedback).

Motivation

Student behaviors at the University of Tennessee - Knoxville have noticeably shifted, especially as recognized within a sophomore level writing class and most drastically across the past two academic years. Historically, the technical writing course has been challenging, but students were successful in the sequence of authoring a technical report, processing feedback, and completing a revision of the report. The assignment was designed to be objective and feedback was crafted to be actionable as well as directly aligned to course lessons framed as "principles". The use of common language and a well-integrated textbook allowed the "principles" to resonate to most students, and the translation was not isolated to high performing students. Students demonstrated

an attitude of "grit" and there tended to be an air of comradery within cohorts as they moved through this class. The course is one of the first courses a student will complete once they enter the department and this cohort mentality was anecdotally observed as extending to a common junior-level lab, often also through their senior design courses. In the past four academic semesters, the positive cohort behaviors appear to have diminished and students appear to be struggling with developing quality writing. Students struggled specifically with thoroughly reading instructions to recognize essential graded characteristics. Students appeared to be emotionally overwhelmed as evident through emails to professors and discussions during office hours during which students were using increasingly concerning language to express the personal anxiety they were feeling. Members of the grading team noticed disengagement as the editing effort of the students appeared incomplete, with students making incomplete revisions which seemed to be caused by "hitting a wall". A two-part hypothesis motivated further study and change in the assignment grading scheme:

1. Can the de-coupling of "evaluation" and "assessment" criteria in an assignment reduce student stress?
2. Can the same de-coupling assignment design improve student writing effectiveness?

Literature Review

Assignment construction is a long-researched endeavor continuing to evolve as scholars study the complex relationship between faculty and students. Research questions focused on the increased demand on faculty in academic settings, such as increases in class sizes compounded by higher research productivity goals, are sometimes answered by use of new technologies allowing for automations of the grading process [1], [2], [3], [4], [5], [6]. Potentially catalyzed by the Covid-19 pandemic, increased researched review of automated assignments and grading have exposed opportunities to accommodate a greater grading load. Faculty can design assignments, and commercially available software easily allows them to administer not only the assignments but also allow for unlimited attempts. Affording more attempts has been supported by research in learning as a mechanism for improved retention of knowledge for students. Without incurring the burden of additional grading, faculty can more positively impact the knowledge transfer. However, the increase in grading capability may be reaching a capacity limit with students. Research focused on the student perceptions of graded assignments tends to cite concerns of anxiety and overwhelming academic performance pressure. Additionally, research results are emerging to relate higher drop-out rates and poorer performances by underrepresented populations of students for which some automated assignments disadvantage, even if often inadvertently. As faculty are provided more tools to increase the quantity and opportunity for graded assignments, social evolution with increased presence, or at least awareness, of student stressors is an important conflict.

Stress specifically caused by numeric grades has been cited and research efforts to improve student experiences tend towards non-traditional grading concepts. The promotion of un-grading as a

continued topic of conversation is generally supported in literature as a viable solution to minimizing stress while also motivating intrinsic learning [7] [8]. Variations in grading schemes such as satisfactory/unsatisfactory [9], specifications grading [10], and contract grading [8] have also been extensively studied alongside novel structures such as oral assessments [11] and are generally supported [12]. Additional research conversations contend grading can be isolated from assessment, so performance in a course might not, for good or bad, be the correct assessment tool to measure student learning [13]. As an example, work by Hyland [14] showed interpretations of written feedback provided in assignments were vastly different between student and faculty, again draw the observation of a wide disconnect between faculty and student relationships as joined by graded assignments. While quantitative results seem somewhat inconclusive, most researchers ultimately conclude the clearly communicated effort of the professor as the essential difference maker. Promoting the effort of building a relationship between the student and professor, as opposed to any specific grading method or feedback scheme, appears to be the unifying result of most work. Research conclusions, evaluating both student performance and student feedback, cite professor's care in communicating a grading scheme alongside motivations for student success as more impactful than a singular, specific method of grading.

The design of a grading rubric for an assignment requires identification of specific skills to be demonstrated by the student and, traditionally, a mechanism for translating performance to a grading scheme. Several research studies promote deliberate isolation of summative and formative assessment [9], [15] to address issues of student stress as well as distrust in the feedback cycle [14]. Citing both cognitive learning models and emotional processing of feedback [16], most work concludes with recommendations to deliberately cultivate style, content, tone, and quantity of feedback associated with assessment tools [17]. Further, research promoted by Lipnevich [15] discourages highly personalized feedback and recommends actionable feedback focused on the task as a mechanism to reduce the internalization of feedback, allowing students to direct future improvement in the specific skill or task.

Objective

A new feedback system was designed in alignment with literature's conclusions of supporting the emotional maturity of students while explicitly articulating learning goals. The effort included modification of assignment instructions and a grading rubric already being used in a technical writing course. Changes in rubric language, expression during class sessions, and support through the online learning management system (LMS) were made considerate of emotional response to the assignment, focused on deliberately improving approachability to the writing and revision efforts. The grading system was re-developed to specifically isolate goals of assessment and evaluation to improve positivity towards revision by detaching emotional attachment to initial draft content. An orchestrated feedback structure included coordinating roles and responsibilities for members of the grading team, to keep biases minimal and scores consistent for all students.

Assignment documents were designed to convey both the instructions for the assignment but also the priorities of the grading team. Graded criteria were defined based on three governing entities: principles articulated by the class textbook, ABET Student Outcomes assessed in the class, and University Graduation Criteria also assessed in the class. Further, the grading rubric was sub-divided to de-couple assessment from evaluation to promote a healthy introduction to the relationship between an author, reviewer, and assignment score which is necessary for effective quality writing.

A grading scheme was devised to integrate student accountability and training in a revision cycle. Members of the grading team, both professors and teaching assistants, were assigned to provide feedback and scores for specific aspects of the initial written assignment. Review feedback was offered using the "New Comment" tool in Microsoft Word and a bank of common comments was generated collaboratively within the team. Review comments were evaluated to focus on recognizable characteristics aligned to the class lessons and actionable items to guide students in their revision effort. Each person was responsible for evaluating the same criteria for all students in the course, to reduce grade variations across different reviewers. Review comments were aligned with assessment and evaluation metrics being used in the initial written assignment while simultaneously considering the revision paper rubric expectations. An independent rubric was used to evaluate the performance of student writing in the revised paper. Students were held accountable to both advancing their writing skills and to revising in agreement with review comments offered by the grading team.

Additional Information on Assignment Design

The assignment design used in the subject course deliberately incorporates not only content-based learning objectives, but also includes University written communication graduation requirements (WC), and ABET Student Learning Outcomes three (SLO 3) and seven (SLO 7.) Students must complete multiple university sanctioned WC courses prior to graduation, the course discussed herein applied for and was granted approval to be listed as an official WC course. For a course to meet the WC requirements at the University of Tennessee, the content must support students' ability to:

1. demonstrate the ability to write correctly, employing appropriate conventions of grammar, usage, and mechanics.
2. demonstrate the ability to focus material to convey a clear, unified point or effect.
3. demonstrate the ability to shape content, organization, style, and/or documentation conventions to correspond with appropriate disciplinary expectations and rhetorical contexts, including audience and purpose.
4. demonstrate the ability to locate and use relevant, credible evidence to support ideas.

In addition to these four requirements, the course must also provide a revision experience and enable each student to produce no less than 5,000 words throughout the course of the semester. The ABET student learning outcomes are program-wide and are assessed multiple times

throughout each student's required coursework. SLO 3 assesses a student's ability to communicate effectively with a range of audiences where SLO 7 addresses a student's ability to acquire and apply new knowledge as needed, using appropriate learning strategies**.** The two (2) rubrics presented in this document include a total of seventeen (17) line items, thirteen (13) of which can be directly mapped to a WC or an SLO, the remaining three (3) relating to professional expectations with the word count and revision requirements having been built into the assignment instructions. A full map of all rubric items to the WC and SLO criteria has been provided in Appendix A, and a compilation of general guidance is available in Table 1. Every university and even the departments within that university are going to have a system to address outside requirements. The language presented in the general guidance table is intended to provide additional resources for building multi-purpose rubrics capable of assessing student outcomes, university requirements, and regulatory objectives which may in turn reduce redundancy in grading efforts and decrease faculty administrative workload.

Table 1 Assessment Criteria Application General Guidance

	Rubric Item Category	Typical Language
WC1	Formatting, Grammar, Sentence Structure, Vocabulary	"Follow all formatting criteria", "Deliberate focus on use of engineering language", "No sentence fragments."
WC2	Paragraph development, presentation of ideas	"Paragraphs are organized to develop a defined point." "Sentences align to develop a specific point unique to the paper."
WC3	Technical content	"Complete engineering concepts and ideas are described" "Content is discussed using suitable technical detail and vocabulary."
WC4	References	"All references are technical." "Content is correctly cited."
SLO3	Content	"Ideas of the paper are complete and clearly conveyed." "Engineering and formal language used throughout paper."
SLO7	References	"All references are technical." "Content is correctly cited."

Merging specifications grading with specified textbook principles, a series of assignment instructions and grading rubrics were developed with deliberate intentions to support student perceptions of their academic ability, isolate evaluation and assessment feedback, and encourage a more positive relationship with an assignment and graded score. The instructions offer general information defining the purpose and intended audience for the paper as well as specific content criteria. The "Written Assignment 01" (WA01) assignment instructions clarify a minimum word count and stipulate criteria requiring the use of technical references supporting the technical content authored within the report. Copies of the instructions and rubrics for this assignment can be found in Appendix B.

As a result of decoupling assessment and evaluation, the WA01 grading system was reformatted into two independent rubrics including the creation of a set of evaluation measures to work in conjunction with previously applied assessment criteria. The introduction of the evaluation rubric minimized the graded effort to a focus on "core criteria" and was the tool used to assign grades to the student work. An assessment rubric offered constructive criteria aligned with course lessons, intended to provide students with a numeric score for their use to understand their performance as a diagnostic tool translatable to grade performance applicable to future evaluation.

The "core criteria" evaluation rubric holds students accountable to the performance of seven (7) tasks in the area of standards of practice. Standards of practice in this context is used to describe skills related to comprehension of assignment instructions and basic file management techniques, all of which could be reasonably expected of students upon entering the course. The core criteria have been deliberately selected to exclude lesson content from the course in an attempt to keep the expectations isolated to entry level requirements. The rubric includes four (4) columns titled: Description, Motivating Rationale, Points Possible, and Points Earned (excerpt shown in Figure 1.) The design philosophy of the evaluation rubric is based on tenets of transparency and guided support, evidenced in the inclusion of the "motivating rationale" column which is intended to provide the students with a higher level understanding as to assignment design reducing the misconception of arbitrary expectations. The transparent design of the evaluation rubric allows students to directly control their grade through the application of previously attained, objective skills.

Description	**Motivating Rationale**	**Points Possible**	**Points Earned**
All references are technical engineering sources.	Our reports emulate technical engineering reports which must rely on factual content supported by respected professionals. Technical references are often validated through review processes and are less likely to include bias.	1	

Figure 1 Evaluation Rubric Excerpt

The deliberate decision to de-couple evaluation from assessment necessitated the inclusion of both the "core criteria" evaluation rubric and a second assessment rubric with a focus on content development. The assessment rubric serves as a framework for providing actionable feedback to the students. The line items represent formatting, basic grammar principles, and content related learning outcomes aligned with the lessons provided to the students prior to the assignment deadline. Each line item contains a description of the grading metric, points possible, and points earned (Figure 2.) The grading metric description is an explanation of expectations containing language intentionally mapped to course lesson materials and textbook content. Students are provided with actionable feedback and hypothetical scores based on each grading metric. These scores are meant to be used to gauge performance and calibrate effort moving forward. The assessment rubric offers the students the opportunity to exercise new skills and apply new knowledge in the creation of their written document without the risk of grade-related stressors.

Metric	**Points Possible**	**Points Earned**

First sentence strategy: content of the paper is well described by reviewing only the first sentence of each paragraph of the paper. The sentences should align to develop a specific point unique to the paper. A general purpose and specific point have been well defined for the paper. **[Reference textbook Principle 1]**	1.0	

Figure 2 Written Assignment 01 (WA01) Assessment Rubric Excerpt

Pilot Study

The de-coupled rubric was initially implemented in Fall 2024 and a second use occurred in Spring 2025 in order to evaluate new, unknown burden for the grading team and to make initial observations in student performance. Students were provided the instructions and complete grading rubric for a technical report assignment. The grading team distributed feedback including the evaluation score recorded for course credit alongside an assessment score students could use to recognize individual level of learning achieved. The grading was performed with similar effort to previous semesters and while initially concerned about workload, the isolation of evaluation and assessment metrics did not significantly increase grading time. Each member of the grading team was assigned specific rubric items to review and a shared spreadsheet was used to assemble the grader's scores for all students in the class. The "MailMerge" function in Microsoft Word was used to compile rubrics to be returned to each individual student. Review comments were offered in the technical reports which were returned to the students for use in a single revision of the paper as part of a follow-up assignment. In the revised paper assignment, students were required to advance their writing based on new class lessons as well as refine based on the review comments provided. The structure of an initial paper followed by a revision was not new and therefore implementation was able to follow already established protocols.

Student performance was not evaluated in the introduction of the new de-coupled rubric, but informal observation showed improved attitudes towards the assignment. The seven (7) "core criteria" items were previously captured through a penalty system wherein lack of compliance resulted in a compounding reduction of grade, in some cases 100% of the total, which could in turn induce negative emotional consequences for the students. In the de-coupled system, the seven (7) professional expectation skills represent the entire graded effort for WA01 but only individually carry a 14% value and as such are emphasized as important but could be perceived as relatively low stakes. Further, the presentation of the score as a fraction earned/missed from an original total appeared to be better received than a score reduced by an applied penalty. Members of the grading team noticed fewer emails and office hour visits arguing against the scores received.

The de-coupled rubric was used in the initial draft of the first paper assigned in the technical writing class but was not applied to the initial draft of a second paper required in the class which lead to tension later in the semester. One observation still under consideration questions the de-coupled rubric as an incomplete solution to detaching student emotion to their graded assignments. While fewer students complained about missing points on the de-coupled rubric, student reactions

to the second paper seemed heightened. De-coupling appeared to delay student connections to the "core criteria" and seemed more frustrated by penalties applied in the second paper.

Assessment Strategy

An assessment plan is necessary to evaluate, and likely improve, the intended emotional shift and performance improvement sought in the de-coupled rubric concept. The strategy will be comprised of three efforts: (1) pre- and post- student surveys related to stress (2) an objective "writing effectiveness" evaluation and (3) performance tracking through graded rubrics. Surveys will be deployed during a semester to question students on their personal stress levels as associated with writing assignments. The intention will be to deliver very brief one or two sentence questionnaires in sequence with the first writing assignment. The intention will be to ask students to self-rank their stress as related to the assignment on some timeline estimated as: two weeks before the deadline, one week, a few days, day of, and day after. They survey will offer a question for a short verbal response and the keywords in their responses will be coded and evaluated through a content analysis method yet to be specified. Secondly, an "writing effectiveness" concept will be mapped in an attempt to evaluate the merit of both the "evaluation" and "assessment" graded criteria. Before evaluating student capacity towards improved "effectiveness", a literature review will be performed to affirm the priorities of the assignment criteria with documented characteristics of "effectiveness". Reader comprehension, read-ability or reader "ease", and similar traits will be considered as "effectiveness" metrics and alignment of these to the grading rubric will be performed. Lastly, course grades will be collected and used to evaluate academic performance and shifts which may occur due to the de-coupled assignment. Prior to Fall 2024, the "assessment" rubric was used as the primary grading tool for the same course and same written assignment. Through IRB approval, data from prior semesters will be assembled to form a control group baseline for academic performance on the specific assignment. Transitioning through the 24-25 academic year and into the future few, grades will be assembled to analyze potential shifts in course letter grades awarded. The scores from the "assessment" rubric should offer a consistent baseline. Biases due to different grading teams and other details of the study will be identified more fully once the parameters of the study have been defined and normalizing techniques will be applied.

Conclusion

Evaluation and assessment have been de-coupled and implemented using dual rubrics for the first writing assignment in a sophomore level technical writing course. Initial implementation required re-design of previous rubrics and explicit planning to manage a grading team. Ideally, a single de-coupled rubric can help a student process different types of feedback and evoke a more positive relationship with the iterative revision process. In Fall 2024, the de-coupled rubrics were used and logistics for the grading team were satisfactory. The members of the grading team were able to release assessment scores, evaluation scores, and revision comments successfully without a significant increase in time. Initial observations on student performance are only anecdotal at this

time, but student reception to the de-coupled rubric appeared positive. Students were less distraught or frustrated with graded scores and appeared more positive entering into the revision of the paper. However, a single de-coupled rubric does not appear to be sufficient to transition students to individually managing their emotions through the revision effort. Future work is necessary as the initial hypothesis seeking to detach the emotional response to feedback is yet incomplete. As apparent in the second paper of the Fall semester, the single de-coupled rubric was not sufficient and a transitional process for which rubrics may gradually change is being considered as a potential solution to improving the emotional relationship between young authors, their reviewers, and graded scores. Revision to the de-coupled grading scheme will be pursued based on the observations during the pilot release, but the assessment strategy is expected to offer more objective direction to improve the quality of the assignment design.

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APPENDIX A: ASSESSMENT METRICS MAPPING

		ABET		VOL CORE			
	Description	SLO 3	SLO 7	1	2	3	4
CC1	The project of discussion meets stipulated selection criteria.					X	
CC2	There are no direct quotes in the paper.					X	
CC3	In-text citations capture all references used in the paper.		X				X
CC4	All references are technical engineering sources.		X				X
CC5	The paper meets the word count requirements (1000, 1200 words).						
CC6	The paper was submitted no less than one hour prior to the deadline to avoid technical issues.						
CC7	The file name abides by the prescribed format.						
WA1	ll papers must be submitted as a single Microsoft Word document (*.docx file type).					X	
WA2	Follow all “Style Format” criteria.			X			
WA3	Follow all “Structure Format” criteria.			X			
WA4	Follow all “ASCE Formatting” criteria.		X	X			
WA5	Use appropriate sentence structure to create complete sentences. No sentence fragments. All sentences shall have a subject and predicate.			X			
WA6	Ideas of paper complete and clearly conveyed. Paragraphs organized to develop a defined point. Entire paper conveys clear purpose. Purpose clearly expressed and independently developed. Purpose is aligned to instructions.	X			X		
WA7	First sentence strategy: content of the paper is well described by reviewing only the first sentence of each paragraph of the paper. The sentences should align to develop a specific point unique to the paper. A general purpose and specific point have been well defined for the paper. [Reference textbook Principle 1]				X		
WA8	Complete engineering concepts and ideas described. Value of the project as a significant engineering accomplishment is fully developed within the discussion of the paper.	X			X	X	
WA9	Engineering and formal language utilized throughout paper. Use of engineering terms rather than layman terminology. Deliberate focus on use of engineering language. [Reference textbook Principle 3]	X		X			
WA10	Appropriate technical references are utilized in report. References cited within paper as necessary to demonstrate integration of ideas and respect original source. References are appropriate for technical engineering report.		X				X

APPENDIX B: ASSIGNMENT DOCUMENTS

Grading Summary

Preparing a technical report requires dedicating appropriate attention towards both instruction criteria and development of relevant content. The grading team requests a completed technical report meeting baseline expectations for acceptable quality for Written Assignment 01 (WA01). Your performance will be evaluated based on core criteria which was defined based on our course expectations and pro evaluation criteria will define your grade on the ck will be offered through checklists and a sco vised Written Assignment 01 (RevWA01) assignm mance in the revision effort.

De-Coupled Rubric Part 1: Evaluation

Used to calculate a student's numeric grade on the assignment.

Evaluation of the report measures successful performance in (7) categories relevant to core behavior and content characteristics. The categories represent various types of guidance engineers may encounter professionally and failure to meet such guidance often leads to significant negative consequences. Other categories represent constraints integrated into our course because of academic design. Ultimately, any written document in our course is required to meet these prioritized criteria and WA01 provides the opportunity to establish the foundation for success.

Assessment of the report measures successful performance in (3) categories relevant to creating quality technical reports. Formatting criteria to meet standards of practice are reviewed, technical content is confirmed for level of detail and correctness of paraphrasing, and appropriate writing style is confirmed to ensure competent delivery of information.

De-Coupled Rubric Part 2: Assessment

Used to offer formative feedback without a relationship to graded performance.

Realize we are sub n outline or other style of in-progress copy. The c ll be provided, and the author will be responsible **report**, apply the principles introduced through class lessons, and create a technical report worthy of reading by a peer audience. Know writing is an iterative process and refinement will follow the initial effort.

EVALUATION

The following checklist reiterates the baseline criteria for writing assignments in our course and will be the basis for your graded score for WA01. These criteria will transition to "Major Penalties" in all future written assignments in our course. Review of these however, at a minimum, consider review 48 hours prior to subm to address any outstanding issues. Meet all these criteria to earn and adapt your work style to consistently satisfy these criteria in all future work to avoid significant grade penalties.

Used to calculate a student's numeric grade on the assignment.

CORE CRITERIA CHECKLIST

Perform the requested work expressed here to earn your grade for WA01.
Avoid major penalties in future assignments by satisfying these core criteria.

Description	Motivating Rationale	Points Possible	Points Earned
The project of discussion meets stipulated selection criteria.	The ASCE Landmarks list offers a uniform based for the grading team to evaluate student work. The List also improves likelihood to identify references with appropriate technical merit.	1	
There are no direct quotes in the paper.	Our purpose is our own. There is no need to rely on the exact words of others in our unique document. Professional engineers will rarely rely on direct quotes, but will use in-text citations to acknowledge critical concepts offered in other sources.	1	
In-text citations capture all references used in the paper.	The relationship between in-text citations and the reference list needs to be genuine and accurate. Integrity to perform and represent quality research efforts is essential to being a trusted engineer.	1	
All references are technical engineering sources.	Our reports emulate technical engineering reports which must rely on factual content supported by respected professionals. Technical references are often validated through review processes and are less likely to include bias.	1	
The paper meets the word count requirements (1000, 1200 words).	Our work in CE205 meets UTK's VolCore WC criteria. To be eligible for graduation, the university requires a minimum number of words from every student at UTK.	1	
The paper was submitted no less than one hour prior to the deadline to avoid technical issues.	We need to have adequate time to react to technical issues or unexpected challenges prior to a deadline. An hour will provide many people sufficient time to visit a friend, library, or other location to upload the file by the exact deadline. While not all potential emergencies will be addressed with this buffer, many will guarantee success. Timeliness in project submittals can be critical in the professional word and some deadlines are non-negotiable. Technology today means many websites can open and close, with no grace opportunity for late submittals.	1	
The file name abides by the prescribed format.	File names improve management of documents on the review side of the documentation process. Many professional entities enforce file naming conventions to improve in-house archiving, enable sharing and cross-checking processes, and similar IT management tasks.	1	
	TOTAL SCORE	7	

The score from this "evaluation" rubric is recorded as the student's grade on the assignment.

ASSESSMENT

The following checklists and scoring rubric reiterate assignment-specific criteria required for WA01. Prepare your WA01 considerate of satisfying all checklist criteria. The (3) checklists translate some of the information provided in the instructions [illegible] has also been provided as an assessment tool. The rubric ide[illegible] formatting, grammar, and content which are used to define q[illegible] WA01, the rubric will be used to report the potential score the re[illegible] the presented criteria. Use the score to reflect on your perfo[illegible] requiring special attention as you progress in our course. The sc[illegible] focus you should address as you complete RevWA01.

Used with two primary intentions:

1. Encourage self-assessment through a guiding checklist.
2. Provide a score which can be used by the student to self-assess their performance.

These intentions support the goal of isolating evaluative feedback (a grade) from assessment feedback (insights into the learning achieved and room for improvement).

FORMATTING CHECKLIST

Review the criteria required to meet formatting expectations. Place a check mark in the "Confirmation" column once review of the specific item has been performed.

	Confirmation
Font shall be Calibri, 11 point font	☐
Left alignment, double spacing, 8 p	☐
No indent on first paragraphs of se	☐
Margins 1".	☐
Continuous line numbers.	☐
Heading contains name and page n	☐
Report contains separate sections.	☐
Headings for sections formatted co	☐
Title page contains a suitable and r	☐
Title page contains name and conta	☐
Title page contains correct word co	☐
Title page names the University, Department, Class, and Assignment information: University of Tennessee – Knoxville Department of Civil & Environmental Engineering CE205: Professional Development I Written Assignment 01	☐
Title page is welcoming, but does not use Word "art"; does not use title page templates.	☐
The title page is independent and the report does not begin until the following page.	☐
The report does not contain extraneous material such as an abstract, footnotes, or endnotes.	☐
Tables and/or figures have been integrated into the report (optional)	☐
Tables and/or figures (if used) have appropriately formatted captions.	☐
Tables and/or figures (if used) have been referenced by use of the table/figure number in the paragraph immediately prior to the element's location in the paper.	☐
Table/figure material (if used) has been appropriately cited with in-text citations either located in the caption or in the paragraph referenced. Citation in both locations is not necessary.	☐
Units are expressed as either U.S. Customary (Metric) or Metric (U.S. Customary) with the primary unit system matching the system of the location for the project.	☐
A reference page is an independent page with no report content.	☐
The reference page is formatted according to ASCE criteria.	☐
In-text citations match ASCE criteria.	☐
In-text citations are used at the close of the general paraphrased content and NOT at the close of every single sentence. Present citations at the close of a general sentiment, concept, or idea.	☐

Members of the grading team completed the checklists for students and returned the checklists to each student. The exercise demonstrated the effort the grading team makes in performing grading reviews. Discussion in class encouraged students to understand the process so they could better align their grade expectations with the scores they earn. The team was transparent with the process, but the real goal was demonstrating self-assessment as an intentional way to control the outcome of work performance.

CONTENT CHECKLIST

Review the content of the paper to confirm technical writing principles have been applied to the writing effort for your document. Place a mark in the "Confirmation" column once review of the specific item has been performed.

Description	Confirmation
Develop a topic sentence in the important introduction paragraph relevant to this specific document's purpose. Do not reference the paper itself in this sentence.	☐
Develop an introduction that expresses the value of this document and the contents of this report. Prepare reader for the details contained in the later sections of the report. Remove extensively detailed information and relocate to the later sections, where their relevance is directly valuable.	☐
Create an introduction one paragraph in length.	☐
Let the final sentence of the introduction paragraph provide the reader the list of contents existing in the remainder of the document.	☐
First sentence strategy shall be recognizable. Review all topic sentences and confirm these express the necessary point to support the paper's major point and purpose. Prepare the reader for the value of the up-coming paragraph through an informative topic sentence.	☐
Do not reference yourself or the paper itself. Do not use first person. Topic sentences shall not include "this paragraph includes…" or similar language; this type of sentence can be used only once, at the close of the introduction paragraph, and no other occurrences shall exist in the document.	☐
Technical details and facts in sections of report need to be paraphrased to align with this paper's series of points. Review sentence structures and support facts with the value and relevance to this paper's major point.	☐
Ensure information shared is relevant to civil engineering and does not stray from this necessary focus. Therefore, consider pairing reference material specific to the project with reference material specific to the profession to provide the appropriate level of technical detail. Simply identifying engineering points is not sufficient; engineering details and facts need to be explained or described in full.	☐
Content needs to support the clear accomplishment or technical achievement. Ensure the information includes not only an explanation or description of the feat, but also clearly provides evidence that the feat was an achievement. Factual points confirming the performance exceeded basic or standard practice must be provided to our reader.	☐

ASSESSMENT SCORE

The following rubric offers a score which is not integrated into your official course grade. Use the score to understand your performance compared to [illegible] team and communicated through this weighted scor[illegible] some different criteria, but will have related content[illegible]

This rubric was offered to measure learning, but the score was not used in grading. A score was compiled to give students an estimate of the learning measured. A low score indicated a student might not be adopting the principles emphasized in the class lessons. In-class discussions encouraged students to use this to gauge their work effort compared to the score. For future assignments, this could be a means of calibration between their expected performance and graded performance.

TECHNICAL REPO[illegible]		
Additional comments included in [illegible]		
FORMAT [		
Metric		
All papers must be submitted electronically through Canvas. [illegible] be submitted as a single Microsoft Word document (*.docx f[illegible]		
Use ASCE's Word Template.		
Follow all "format" criteria as specified in the instructions an[illegible] ASCE Journal guidelines.		
Follow all "Core" evaluation criteria.	1.0	
TOTAL:	**3.0**	
Fundamental GRAMMAR [40%]		
Metric	**Points Possible**	**Points Earned**
Use appropriate sentence structure to create complete sentences. No sentence fragments. All sentences shall have a subject and predicate.	2.0	
Ideas of paper complete and clearly conveyed. Paragraphs organized to develop a defined point. Entire paper conveys clear purpose. Purpose clearly expressed and independently developed. Purpose is aligned to instructions.	2.0	
TOTAL:	**4.0**	
TECHNICAL Content & Writing Style [30%]		
Metric	**Points Possible**	**Points Earned**
First sentence strategy: content of the paper is well described by reviewing only the first sentence of each paragraph of the paper. The sentences should align to develop a specific point unique to the paper. A general purpose and specific point have been well defined for the paper. **[Reference textbook Principle 1]**	1.0	
Paper discusses fundamental civil engineering content. Technical aspects of the project are discussed with **appropriate detail and engineering vocabulary suited to peer engineer audience**. More specifically:		
Complete engineering concepts and ideas described. Value of the project as a significant engineering accomplishment is fully developed within the discussion of the paper.	0.5	
Engineering and formal language utilized throughout paper. Use of engineering terms rather than layman terminology. Deliberate focus on use of engineering language. **[Reference textbook Principle 3]**	0.5	
Appropriate technical references are utilized in report. References cited within paper as necessary to demonstrate integration of ideas and respect original source. References are appropriate for technical engineering report.	1.0	
TOTAL:	**3.0**	
Penalties Incurred:		
COMPOSITE TOTAL SCORE:	**10.0**	

The score from this "assessment" rubric was shared with students but not used to calculate the assignment grade.