

Using Specifications Grading in College Classrooms

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Presentation goals

1. Familiarize participants with specifications grading.
2. Motivate participants to further explore specifications grading.



What characterizes a good grading system?

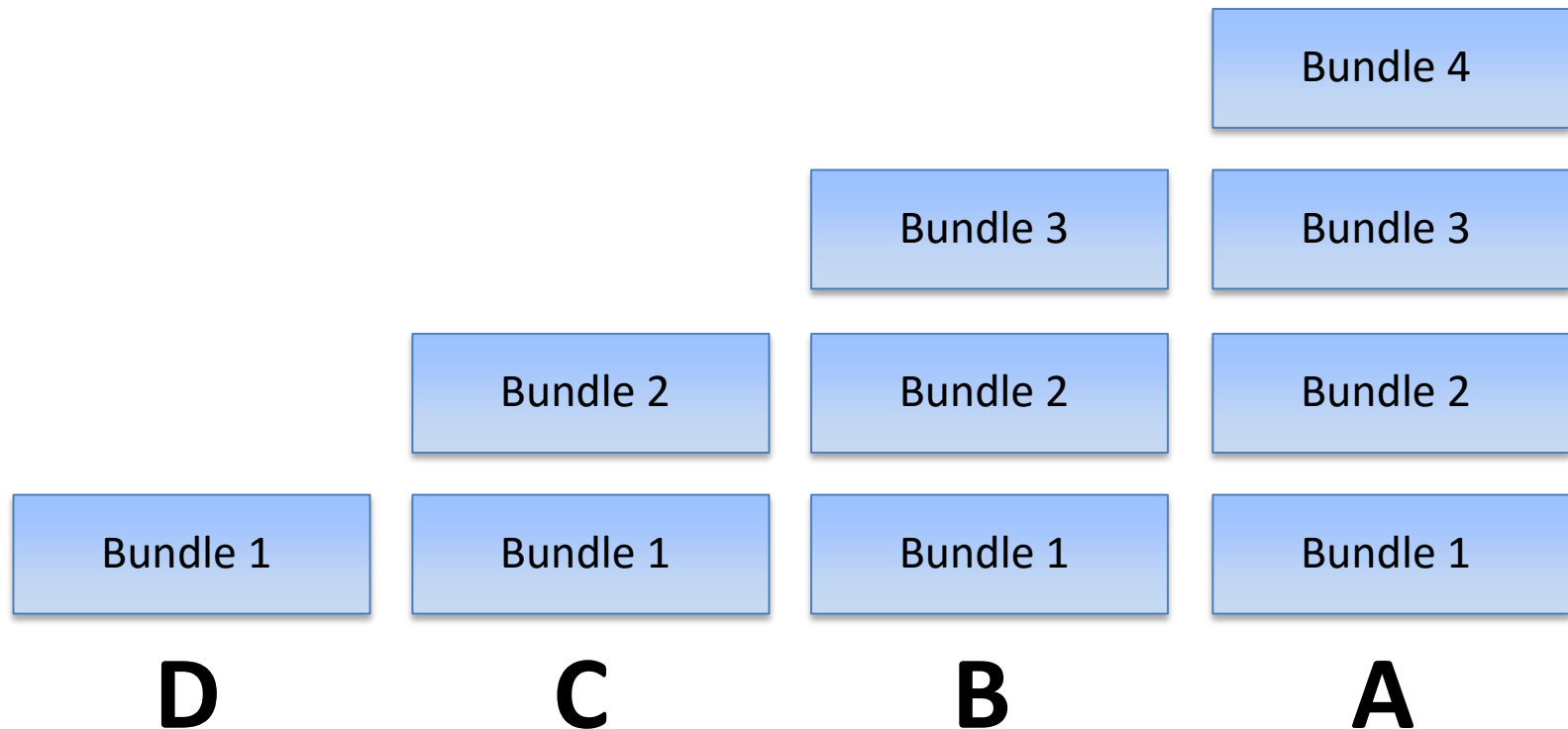
1. Supports high academic standards regarding specific, significant, and relevant learning objectives.
2. Intelligent; motivates students to learn, excel, and take ownership of grades; minimizes stress.
3. Work evaluated quickly with high inter-rater reliability, thus reducing conflicts with students.
4. Relies on authentic performances requiring higher-order cognition, thus discouraging cheating.
5. Gives meaningful feedback and opportunities to learn from it.

(adapted from Nilson, 2015, pp. 129-131)

What characterizes specifications grading?

1. Grades based primarily on the *amount* of work students *choose* to do.
 - Students *select* desired grade for course; higher grade requires *additional* work.
 - Assessments organized in bundles, each associated with a specific grade.

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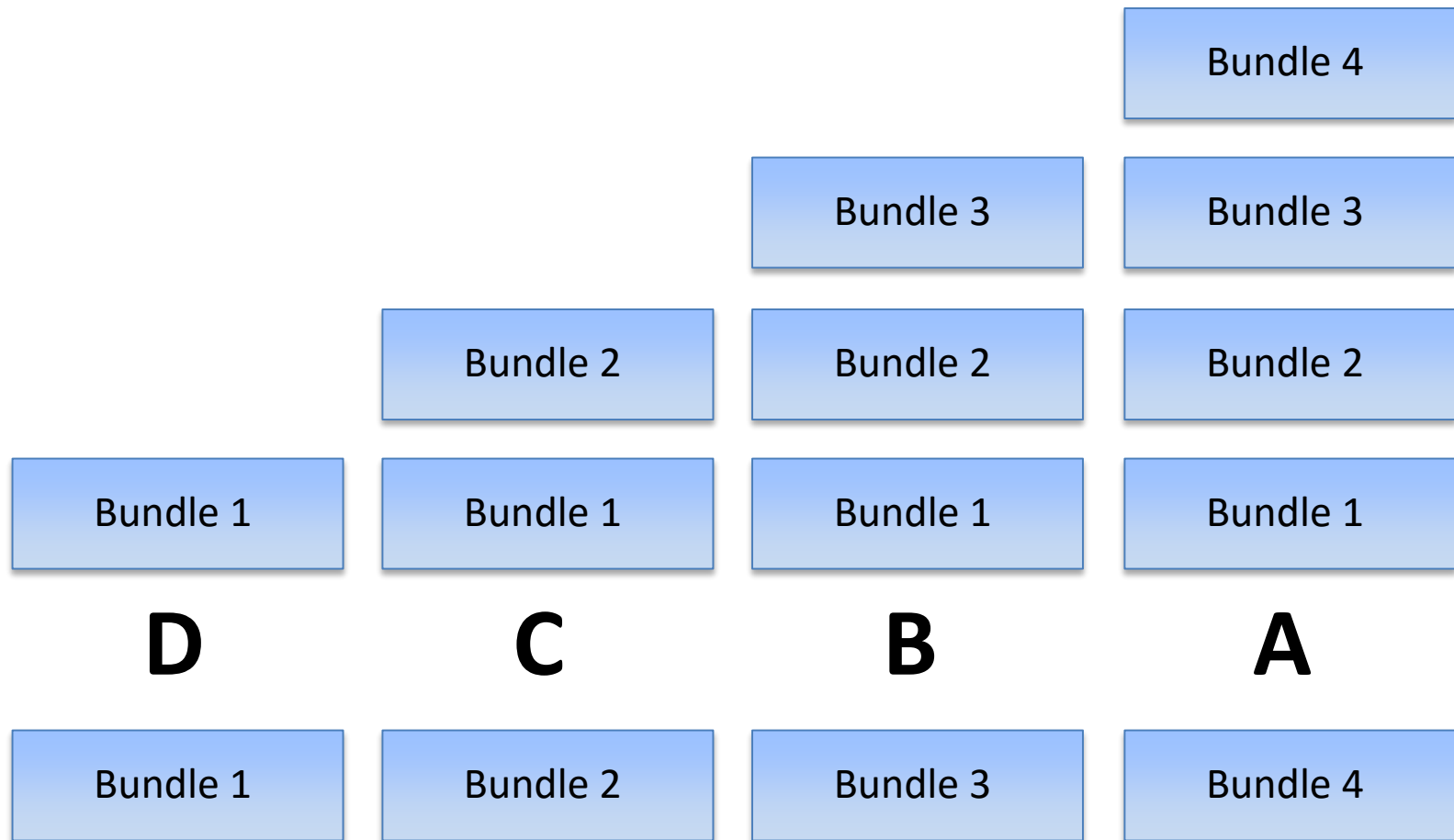


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What characterizes specifications grading?

2. Course grades also based on the *quality* of students' work.
 - Students *select* desired grade for course; higher grade requires *more sophisticated* work.
 - Work evaluated *pass/fail*; must be reasonably complete and accurate ($\geq B$); no partial or extra credit.
 - Students given explicit, specific requirements for and models of acceptable performances.
 - Individual assessments not graded; instructors provide feedback to indicate necessary improvements.

Assessments organized in bundles, each associated with a specific grade.



Comparing specifications and traditional grading

traditional grading	specifications grading
Best suited to quantitative assessments emphasizing factual knowledge (e.g., traditional exams).	Best suited to qualitative assessments emphasizing authentic skills and nuanced understandings.
All students demonstrate learning through identical means.	Students can make meaningful choices regarding how they will demonstrate their learning.
Based exclusively on quality of work.	Based on quality and quantity of work.
Unclear what must be done to earn a given grade.	Very clear what must be done to earn a given grade.
Assessments tend not to reflect specific, relevant, and significant learning objectives.	Assessments more likely to reflect specific, relevant, and significant learning objectives.
Assessments used primarily to determine grades (summative assessment; assessment <i>of</i> learning).	Assessments used primarily as significant opportunities for teaching and learning (formative assessment; assessment <i>for</i> learning).
Poor work accepted.	Poor work not accepted.
All assessments graded.	All assessments evaluated, but only grade is for course.
Very discrete aspects of performances evaluated.	Performances evaluated more holistically.
Little or no feedback other than score or grade.	Ample feedback provided as needed.

Advantages and drawbacks of specifications grading

advantages	drawbacks
Can readily accommodate quantitative assessments.	Unfamiliarity.
Far less grading.	Requires comprehensive plan for entire course.
Fewer conflicts with students.	Need for clearly defined, evaluative criteria and models of acceptable performances.
Less time to evaluate qualitative tasks.	Likely to require more feedback.
Greater motivation for meaningful learning through quality work.	
Students more likely to learn from errors and corrective feedback.	
Less stress and likelihood for cheating.	
Improved student performances over time (through stronger models).	
Reasonably high standards + good SOS scores.	

Examples of specifications grading

Determining grades: Your grade for this course will be determined through a process known as *specifications grading*.¹ In short, this means

- While there are some tasks that everyone must complete successfully, your learning and overall grade will be determined primarily by the amount of quality work you choose to do. Put another way, the grade you want will determine how much work you must do, and you will choose what most of that work will consist of.
- The products of your learning will be evaluated on a pass/fail basis—if your work meets all the criteria for that performance, it will receive full credit, but if your work fails to meet those criteria, it will receive no credit (partial credit may be assigned for larger projects worth more than 1 point).

Below is the scale used to convert the points you earn over the semester into a final, letter grade:

A	≥67	B+	≥62	C+³	≥55	D+	≥49
A-	≥65	B²	≥60	C	≥53	D	≥47
		B-	≥58	C-	≥51	D-	≥45
						E	<45

These are the various ways you can learn, demonstrate your learning, and earn points in EDU 345:

- A. Required tasks/projects** (P# = project designation, G = group, I = individual, number = points awarded individually). Together with weekly attendance and assignments, this work is the backbone of EDU 345. Successfully completing all of these tasks will give you **15 pts**.
1. Science content research (P1, I, 3).
Construct questions, research answers, and identify exemplary resources for K-8 teachers and children regarding a NGSS performance expectation (particularly the disciplinary core idea associated with that PE).
 2. Summative assessment (P2, I, 2).
Construct a variety of questions and desired responses/performances to summatively assess the knowledge, understandings, and skills children must develop to successfully perform a NGSS performance expectation (PE).
 3. Teaching PPT & microteaching video (P3, I, 3).
Construct a short, direct instruction lesson using PowerPoint (3-5 slides) and produce a short, instructional video in which you must speak and appear for at least 4 of the lesson's 5 minutes.
 4. NGSS unit outline (P4, G, 1).
Design a unit to prepare children to effectively complete your group's NGSS PE and perform successfully on your collective summative assessment.
 5. Description of teaching NGSS lesson (P5, I, 4).
Describe your teaching and formative assessment for one lesson in your NGSS unit.
 6. Final demonstration of learning (P6, I, 2).
Write a final, summative reflection describing your professional growth in learning and teaching K-8 science and highlight the most important aspects in a short (3 min) presentation on the final class meeting.

Assessment: Project 1 will be worth 3 points for satisfactory work in each of three areas (A-C below; 1 pt/area).

A. Science content is accurate and relevant (1 pt).

1. Accuracy—the science content described must be free from significant errors.
2. Relevance—the science content described must be relevant to the question it has been applied to.

B. Project is complete and well researched and written (1 pt).

1. Completeness—the answers to all questions must be sufficiently complete; all other required aspects of the project (e.g., pre-research answers and references) must be present and sufficiently complete.
2. Written communication—your writing must be clear and free from significant errors.

C. Valuable additional resources have been identified and described (1 pt). These must be resources for teachers preparing to teach the content of your PE and/or resources for children learning the content of your PE. The former cannot be too technical, the latter must be *age appropriate*, and all must be easily accessed, used, and beneficial in some significant ways. You must provide a minimum of three resources of either type. Each must have the same identifying information for references (see above). You must also describe each resource and *explain why it is valuable* to teachers or children.

Assessing projects: All projects will be evaluated on a pass/fail basis using a checklist-type rubric that identifies the most important features of the product to be generated and the criteria for satisfactory performance. When I evaluate your work, each item in the rubric will be assigned one of three marks:

(0) = item is **missing** **(-)** = item is **present but unsatisfactory** **(+)** = item is **satisfactory**

Projects worth more than 1 point will be divided into a number of sections equal to the number of points that project is worth (e.g., a project worth 3 points will consist of 3 sections, each worth 1 point). Points will be earned only if all the items in that section of the rubric are present and meet the criteria for satisfactory performance.

Feedback: Feedback is an important opportunity to learn and improve one's work and grades, but it can also become overwhelming for me and contentious for both of us if the process is not managed effectively.

As students begin working on projects I will spend a good deal of class time meeting with them and providing as much oral feedback as time allows. Students requiring additional feedback can meet with me during my office hours, schedule additional times to meet, request that I complete a tentative rubric in which I score all items (0, -, +) but provide few comments (this can be done only once/project), or request detailed written feedback in which I will complete a tentative rubric and provide explicit instructions for making improvements (costs one token/point/request).

B. Optional tasks/projects (G = group, I = individual, number = points awarded individually). Most of these tasks can be completed either individually or as a group, but the latter will require a more significant product or result in fewer points/individual. Some tasks can involve multiple components and are therefore worth a range of points, and no points will be awarded to an individual completing more than 3 projects of the same type. All tasks below are described in greater detail in a separate document.

1. Attend, participate, and reflect on 75 minutes of class (I, 1; potential total for semester = 31 pts).
2. Satisfactorily complete a weekly assignment (I, 1; potential total for semester = 14 pts).
3. Research children's misconceptions regarding a specific NGSS topic and then plan, teach, record, and reflect on a K-8 science lesson informed by that research (I/G, 1-7).
4. Plan, teach, record, and reflect on a K-8 science lesson (I/G, 1-5).
5. Read, summarize, evaluate/comment on, and develop instruction involving a major text (> ~250 pgs) written for an adult audience regarding science, teaching, or learning (I/G, 1-5).
6. Write a research-based term paper on a topic involving teaching or learning in pK-8 science (I/G, 1-5).
7. Differentiate instruction and assessment, accommodate children with specific disabilities, and integrate math, language arts, or social studies for P5 (I, 1-3).
8. Plan/describe an additional NGSS lesson (I/G, 1-3).
9. Revise an existing unit, lesson, or learning activity to reflect NGSS requirements (I/G, 1-3).
10. Read, summarize, evaluate/comment on, and develop instruction involving a minor text (< ~250 pgs) written for an adult audience regarding science, teaching, or learning (I/G, 1-3).

THE “SPECIFICATIONS GRADING PARADIGM” FOR THE COURSE

This course uses a competency-based grading system. In this “specifications grading paradigm” each student chooses the grade he or she wants to earn in the course and then works through a variety of assignments (called Learning Modules) to demonstrate the level of competency that grade requires.

The two most important reasons for the use of this grading system are:

1. To reduce focus on grades and heighten focus upon learning; and
2. To foster the development of “self-regulated learners”

The table below documents the requirements necessary for each letter grade. To earn the grade listed in each row, a student must satisfy ALL the criteria in that row.

TO EARN A GRADE OF:	Content Quizzes	Academic Blogging	Research Proposal	Biographical Profiles	Short Essay	In Class Presentation
A	Attain an overall average of at least 90%	Complete 6 responses that demonstrate Mastery	Demonstrate Proficiency or Mastery	Demonstrate Proficiency or Mastery	Demonstrate Mastery	Demonstrate Mastery
B	Attain an overall average of at least 80%	Complete 4 responses that demonstrate Proficiency	Demonstrate Proficiency	Demonstrate Proficiency	Demonstrate Proficiency	Demonstrate Proficiency
C	Attain an overall average of at least 70%	Complete 3 responses that demonstrate Proficiency	Demonstrate Proficiency	Demonstrate Proficiency	Demonstrate Proficiency	n/a
D	Attain an overall average of at least 60%	Complete 2 responses that demonstrate Proficiency	n/a	n/a	n/a	n/a

(Mark Husbands, Ph.D.; REL295, Hope College, Holland, MI; <http://markhusbands.me/rel295-fall-emmausseminar/>)

How to earn a plus/minus grade:

- to earn a "plus" grade for a letter: meet all of the requirements for the letter plus the (1) achieve a content quiz grade 5% greater than base score for corresponding letter; and (2) submit at least one additional blog beyond that required for the base score. - For example, if a student satisfies all of the requirements to be awarded a grade of 80% but achieve an 85% on content quizzes and submits 5 blogs demonstrating at least proficiency, he/she will be awarded a B+ for the course. A "minus" grade will be awarded for students that meet the score for corresponding content quizzes but submit one fewer blogs required to achieve a given letter grade.

Partial Credit No partial credit is awarded on any assessed item. Rather, your work is awarded a grade, based on my professional judgment, if it meets the appropriate specifications for quality work.

Tokens: Revisions and Extensions At the beginning of the course you will have **4 Tokens**. Each token can be cashed in for one of the following:

- a "do-over" on a written assignment
- a 24-hour extension on a deadline (for written assignments only) - if an email request is sent to Professor Husbands 12 hours before a deadline. There will be no revisions or extensions will be offered for the final in class presentation. - If you are requesting a revision or extension on group work, each student in the group must spend a token in order to secure your desired outcome.

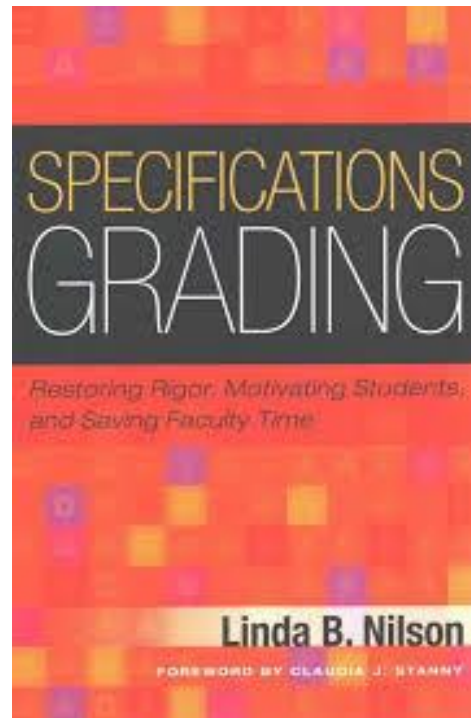
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Possible Scores for Assignments

For each assignment (with the exception of daily quizzes) you can attain a score between "0" and "4"

Score	Meaning
0	No basis for Assessment
1	Inadequate understanding / expression of ideas
2	Needs Revision: partial understanding with room for improvement. Little Evidence or analysis is presented.
3	Proficiency: meets expectations and demonstrates understanding. Evidence and Analysis is offered.
4	Mastery: exceeds expectations — work is complete, demonstrates deep understanding and elegant prose / and presents a persuasive argument

(Mark Husbands, Ph.D.; REL295, Hope College, Holland, MI; <http://markhusbands.me/rel295-fall-emmausseminar/>)



Nilson, L. B. (2015). *Specifications grading: Restoring rigor, motivating students, and saving faculty time*. Sterling, VA: Stylus Publishing.