## Instructional Approach: Quizzes for Grading Case Analyses

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Keywords: Quizzes, Speedgrader, Rubric, Cases, Critical Thinking, Case Analysis, Formative Assessment, Grading, Scoring, Efficiency, Large classes

Audience: Large Classes

## Learning Goal/Outcome: Program Learning Goal: Critical Thinking in Business

Students will arrive at reasoned conclusions and make informed decisions in assessing current and predicted business situations by applying course concepts learned across the curriculum.

- **SLO 2.2**: Gather, analyze, and evaluate information relevant to solving the business problem, issue, or dilemma.
- **SLO 2.3**: Articulate possible solutions to the problem, dilemma, or issue, supporting each with data or analysis.
- **SLO 2.4**: Select and defend the best solution to the business problem, issue, or dilemma.
- SLO = Student Learning Outcome

**Assignment:** Apply process analysis concepts to a business situation in order to: 1) identify the bottleneck and calculate capacity, throughput, cycle time, and labor utilization and 2) recommend improvements to the process to improve the appropriate metrics. The case used is Kristen's Cookies, which is a simple cookie-making process. Students are to flow chart the process prior to calculating process metrics to identify the bottleneck and making improvements in the event that the demand for cookies increases.

**Previous evaluation method:** Each student submitted a flow chart and answered six questions of increasing complexity in a Word document. Submissions ranged from a few sentences to as many as 3 pages of narrative per student. Each piece of work would take, on average, about 30 minutes to grade using SpeedGrader in Canvas. With a class size of 58-64 students, the promised turnaround time of a week was often missed. Consequently, students did not receive timely feedback.

**New evaluation method:** A seven-question quiz was created using the Canvas quiz tool. Four questions require calculations (capacity, throughput rate, cycle time and labor utilization) and are multiple-choice. They represent half of the points for the assignment. Three questions require a file upload (the flow chart) and two essays. A student who answers any of the Canvas-scored questions incorrectly receives an explanation of the correct answer. The remaining questions are manually graded using SpeedGrader. The essay questions do not accept file uploads. This keeps the answers fairly short. Average grading time decreased to less than 15 minutes. Students now receive feedback within the promised one-week turnaround time. Screen shot 1 shows the Quiz Edit screen. Two attempts are allowed and the highest score is used as the final grade. Students see the answers after the last attempt. Screen Shot 2 shows the quiz preview screen, which is what the student sees upon starting the quiz.

The seven-question quiz took less than an hour to set up in Canvas, primarily because the questions were part of the original assignment. With preparation time (reading the case, formulating the questions and answers), this formative assessment may take three or four hours to set up. However, once it is done, the assignment can be used in any class that is on your Canvas site.

**Potential future modifications:** The next step is to use a rubric to grade the essay questions. I have found the Canvas Rubric tool to be extremely useful in grading discussion forums in my graduate online course. A second upgrade would be to give audio feedback using Canvas comments.



Screen Shot 1 – Quiz Edit Screen

Bob's Burger's QPD Exer	× ⊈ SENIGOUL Bannar In X/ ⊈ Que HW≉L Kinnens Co. X ↓ ∯ Finit ExamisU16 095 6 ×	Popy Server - 5 X
→ C ≜ https://in	☆ 🛛 ≡	
	16-IN-BUS-P371-14764 > Quizzes > HW#1: Kristen's Cookies Case Quiz	
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SLAMER 2011	HW#1: Kristen's Cookies Case Quiz	
Announce	ments	
Assignme	This is a preview of the published version of the quiz	
hboard Discussio	is Started Aug 6 at 12:14pm	
Grades	Quiz Instructions	
urses	Cuetton 2 Outetton 3	
R8 People	You and your roommate are preparing to start Kristen's Cooke Company in your on-campus apartment. The company will provide fresh cookies to starving students late at night. You need to evaluate the preliminary design for the company's production Outstand 5	
NUCLEUR	process to figure out how many orders to accept and how effectively your time, and that of your roommate, will be utaized.	
	BUSINESS CONCEPT O Guession ?	
lendar Modules	Your idea is to bake fresh cookies to order, using any combination of ingredients that they buyer wants. The cookies will be ready for pickup at your apartment within an hour.	
Collabora	3005 Several factors will set you apart from competing products such as store-bought cookies. First, your cookies will be completely	
Chat	fresh. You will not bake any cookes before receiving the order, therefore, the buyer will be getting cookes that are likerally hot out of the oven. Second you will have a variety of noneclerent available to add to the basic doubn inclusion chocolate chos. MAM's	
Altendano	e chopped Health bars, coconul, wainuts, and raisins.	
Turning	Buyers will call in their orders and specify which of these ingredients they want in their cookies. You guarantee completely fresh	
Technolog	ies cookies, in short, you will have the freshest, most exotic cookies anywhere, available right on campus.	
Registrati	THE PRODUCTION PROCESS	
Taskstrea	Balang cookies is simpler mix all the ingredients in a food processor, spoon out the cookie dough onto a tray, put the cookies into the cookie dough onto a tray, put the cookies into	
SIS Facul	y Center caterilly pack them in a box. You and your commate attack you in ecosists cout, and, sawy, sawe the observed on any and caterilly pack them in a box. You and your commate attacky own all he necessary capital equipment, one food processor,	
Katura II	cookie trays, and spoons. Your apartment has a small oven that will hold one tray at a time. Your landlord pays for all the	
Gallery	electrocky. The variable costs, therefore, are merely the cost of the ingredents (estimated to be 50 God/ozen), the cost of the box in which the costels are packed r50. To be box: each box holds a dozen costes), and your then (what you have do you bake do not bake do no	
Katura: N	y Media your time?). A detailed examination of the production process, which specifies how long each of the steps will take, follows	
IU Photo	Notifier The first step is to take an order, which your roommate has figured out how to do quickly and with 100 percent accuracy.	
(beta)	(Actually, you and your roommate devised a method using the campus electronic mail system to accept orders and to inform	
IUPUI Aci	customers when there orders will be ready for pickup, because this runs automatically on your personal computer, it does not take demic & any of your time.) Therefore, this step will be ignored in further analysis	
Services	You and your roommate have timed the necessary physical operations. The first physical production step is to wash out the	
UPULIN	mixing bowl from the previous batch, add all of the ingredients, and mix them in your food processor. The mixing bowls hold	
Resource	*** angretements on up to a succer occesses, to users upon up the consistent and times, onto a cooke any. These activities take final star manufes for the washing and mixing backs, regardless of how many condexs are being made in the batch That is, to make the success of the succes of the succes of the	
2 cic oude	enough dough and ingredients for two dozen cookies takes the same six minutes as one dozen cookies. However, dishing up the	

Screen Shot 2 – Quiz Preview Screen