

Final Report on the WDI Project Implemented in PHY137H5S in 20171

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Project: Blog assignment “How does it work.ca?”

RGASC Faculty: Dr. Michael Kaler

Teaching Assistants: Sandhya Kemkar and Sam Yoshua

Objective: To reflect upon experiences in executing the project, laying down pathways for refining the process for efficient delivery and creating effective tools for student assessment in future endeavors.

(1) What happened with regard to the project?

This project was initiated by the above mentioned faculty to encourage writing in Science for the first year students enrolled in this course. Students were directed to write a blog post on any one of the various physical concepts listed under “How does it work.ca?” in an attempt to explain them to non-technical readers. The success criteria for this writing were based on two submissions with each having specific learning goals. The rubric for the first draft was based on formatting, grammar at sentence level, explanations geared towards the non-technical readers, topic development, structuring of paragraphs and general coherence in writing. The teaching assistants underwent ten hour training in writing, grammar and a benchmarking session before assessing students using a comprehensive rubric.

The students were then asked to work on the given feedback, revise and submit a second draft with an explanatory paragraph giving details on how they revised or why they did not make changes in their second draft. The teaching assistants co-created the rubric for the second draft with the RGASC faculty. The assessment criteria for the second draft were based on the effectiveness of revisions made and content of the explanatory paragraph. After another follow up session on benchmarking the second draft, the teaching assistant marked the second drafts for their respective students. This was done in order to maintain consistency in marking multiple drafts.

(2) How did it work objectively?

Analysis of student writing showed that most of the students understood the expectations and were successful in writing the first drafts. Their writing reflected understanding of the topic and their abilities to research using multiple resources. There were sincere attempts to address their audiences (non-specialist readers). It was however seen that not all students responded well to given feedback in their second submissions. It was widely noticeable that students who got an above average grade in the first drafts (80 to 94 marks) however did not perform typically well in their second drafts (56 to 78 marks) and vice versa. There were a few exceptional cases of a good performance in both the submissions (88 marks in first submission and 100 marks in second one).

It was observed that students respond well to given feedback when it is specifically pointed out with examples. General or vague comments are usually not noticed. At the same time, they only pay attention to the mistakes which have been highlighted in the assessments. Improving research capabilities were a crucial part of this assignment, but it was noticeable that many students used shortcuts and used pop science websites and Wikipedia instead of scientific journal articles as major reference sources. There were also some logistic issues like misplaced or lost assignments where students did not have access to TA’s feedback in order to make revisions for the second draft. Special announcements regarding the assignment usually were unnoticed unless they were mass emailed to students.

(3) How did it work subjectively?

Overall, based on student's feedback in the self-explanatory paragraphs students have enjoyed writing, researching on topics of interest in physics and have generally responded to TA's feedback.

I (the instructor) checked the students' opinion in class and the results were positive.

(4) What have I learned?

I feel the project is very nice in filling the familiar "weakness" of the students in scientific writing. Writing development initiative can be a self-satisfying experience for students as it goes beyond routine laboratory report writing tasks. I would like to thank all the TAs who helped me and shared in the running and evaluation process. Special thanks to Dr. Michael Kaler who closely supervised and followed up throughout the project.

One of the TAs suggested: "In order to avoid past mistakes suggested changes to manage this project is lay out specific expectations to TA's regarding their duties, to ask for electronic submissions from students as this will avoid loss of assignments and late submissions and will enable timely feedback and address conflict resolutions between TAs, students and other staff. From a TA's perspective, if citation sources are limited to certain articles, it makes it easier to detect plagiarism."

(5) What would I change?

Although my experience was excellent with this WDI I feel like the students were "overwhelmed" because of the so many assignments and pieces of evaluation in the course PHY137H5S itself: quizzes, tutorials, lab reports, exhibition report, and two submissions of the WDI. I'm thinking not to run this project for next year. In the future I'll re-initiate my request to implement the project again.

Anyway, if this project is run again in the future, changes can be done to the nature of the question in the assignment. This will offer students a fresh perspective on writing and prevent churning out run on the mill submissions from past years.