The Contrast of Intrinsic and Extrinsic Incentives for Workshop Attendance

Abstract: In this research, we focused on how much effect assigning grades had for workshop attendance. The hypothesis prior to the research was that most students attended workshops for the purpose of learning, not necessarily for the benefit of the grade points rewarded. Thus, if grades were not awarded at all for workshop attendance, hypothetically the students would still put effort in attending all the workshops. The research was mainly conducted through the use of an online survey distributed to the students in the introductory biology course, asking how often they would attempt to attend a hypothetical workshop out of 12 total opportunities accordingly with five different grades weighted upon attendance, ranging from 20% of the total grade to not being accounted for any grades at all. The result showed a gradual decline in the attendance of students as the accounted grades decreased from 20% to 5%, and then showed a sharp drop when grades were not rewarded at all for workshop attendance. The results suggested a different reason for the students’ motivation to attend workshops compared to our original hypothesis.

Introduction: Workshops have evolved on the educational scheme to become an essential component which aids the traditional classroom setting. The effects of the workshops on the performance of an individual has been studied in detail, from the ability of professional peer-reviewers to breastfeeding self efficacy of new mothers. Workshops have evolved past the collegiate academic scene and have become a crucial part of any educational field. It must also be noted that these workshop settings are very different from the traditional classroom setting;
workshops individual and group interaction are put forth as one of the most important aspect, for example group discussions and individual presentations were held to enhance these qualities.

In this research, we focused on the fact that there have been many studies as listed before on how beneficial workshops can be, yet there have not been a noticeable study on what actually motivates students to attend workshops. Similar researches pertaining what motivates students to attend classes have been done, the most interesting example being R. P. Beaulieu’s research on how different types of rewards affected the attendance of students in a traditional classroom setting. In this research, we have set up two different forms of rewards for hypothetical workshop attendances, one “extrinsic” and the other “intrinsic”. In this case, “extrinsic” rewards are defined by the direct rewarding of grades recognized for workshop attendances where a certain percentage of a class’s grade is weighted upon the attendance of workshops. On the other hand, “intrinsic” rewards suggest that the students attend workshop for the opportunity to engage themselves in their academics and further learning. In the University of Rochester there are some workshops that put into account the workshop attendances for their final class grades and there are those which simply encourage students to attend workshops but do not factor the workshop attendance into their class grade. We hypothesized that because in both of these cases most students seemed to attend workshops regularly, that what motivated students to attend workshops was not the “extrinsic” reward of grades, but mainly the “intrinsic” reward of having further opportunities to learn the subject.

Methods: An online survey was created using surveymonkey.com in this research to gather the data from the students in University of Rochester’s introductory biology class. The survey asked for the students’ class year, their intended major, and their potential profession along with our main question of how often they would attempt to attend a workshop depending
on a certain percentage of grades being appointed for their attendance. For this main question, we have set up a hypothetical workshop for a class in which there are 12 total workshops that could be attended. 5 different possible cases were presented to the students; one where 20% of the total grade was constituted of workshop attendance, another one where 15% of the total class grade was accounted for, and so on as incrementally 5% of the total class grade was subtracted from the accounted workshop attendance grades until the workshop attendance had no direct effect on an individual’s grade. The different students’ responses were analyzed and compared with our hypothesis.

**Results:** A total of 61 students responded to the online survey. About 28% of the responses were from male students and 72% were from female students. The imbalance in the gender percentage was a curious result, but we deemed it to have no serious effect on the research result. The majority of the responses were by underclassmen, where 67% and 25% of the responses were from freshmen and sophomores respectively. This was somewhat expected as the introductory course is mainly composed of underclassmen.

Out of the 61 students who answered the survey, 59 of them answered what their perspective or declared major was. Out of these 59 responses, only 1 student answered undecided (but still put in biology within a parenthesis) and only 2 other students answered a major in the humanities (Russian language and voice performance). Most of the students responded that they are interested in pursuing a major in natural science, such as biology, chemistry, or engineering, or some majors in the social science like psychology or public health which relates to the health profession.

Out of the 61 students who responded to the survey, 56 students answered what future professions they were interested in the most. Out of these 56 responses, 5 of them indicated that
they were still unsure or undecided, and 4 others have expressed interest in a field outside of health related professions such as mechanical engineering, law, social worker, and an environmental consultant. All of the other students responded with a profession relating to health, such as being medical researchers, medical engineers, doctors, and dentists.

Considering that the majority of the students showed direct interest in pursuing health related professions and also an interest in the field of natural sciences related to biology, it would have been plausible to think that all of these students are motivated and interested in learning about biology. However, when evaluating the results from the main question on the survey the response suggested that the major motivational factor for students to attend workshops is because they are accounted for in their final grade. All 61 students responded to the question with 5 different hypothetical workshop situations, and while 96.7% of the students answered that they would try to attend all 12 hypothetical workshops if attendance accounted for 20% of their total grades, only 51.8% answered that they would attend all 12 workshops if the attendances had no effect on their final grade. This difference was even more significant when considering that between the 20% and the 5% range, the amount of students who would attempt to attend all workshops differed by less than 20% and yet between 5% and no grades being rewarded at all there was a drop of about 27% in students’ full attendance. This showed that for roughly half the students in the class the “extrinsic” reward or the direct influence on grades were the main motivation in attending workshops.

**Conclusion:** The research showed a significant decline in students’ projected workshop attendance when grades were not presented at all as a reward. This showed that at least when focusing solely on the attendance of workshops, the class should provide some of their total grade to the workshops in order to get a significant amount of their students to attend them. Even
for a subject which may have a significant importance in their future academic or professional endeavors, the main motivational factor for students was their grades, and the presence of an “extrinsic” reward greatly benefitted attendance rates of workshops. However, it is also true that this survey is very biased as only the students from the introductory biology class were the targeted sample. Because in this particular class grades are put into account with workshop attendance, the students’ answers may have been skewed. Also because this is an introductory class, some of the students may find the material to be a review of what they have already learned previously as I have personally heard from some of my students in my workshop. If this were the case, then it is true that neither the workshop nor the class particularly provides the student with a great opportunity for further learning of the subject. One way to balance these potential skews is to commence similar surveys with other classes with different workshop settings, such as organic chemistry (CHM 203). This could be interesting because in this class the workshop attendances are not rewarded with any direct grade benefits, and for most students taking this course organic chemistry is a totally new subject. Another point to note is that the survey did not garner up a significant amount of responses from the students (only about 10-20% of the total students in the introductory biology class) and as stated earlier there is a fair amount of skews within the research as well (how almost three-quarters of the respondents were female students). Even thought the initial hypothesis was rebutted with this particular result, it would be interesting to see what further data can be collected if we can overcome these skews and survey biases.
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