

Student Use of Course Reviews at Scale

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ABSTRACT

Students have developed their own platforms for sharing their evaluations of courses over the Internet. These are typically focused on the needs and experience of students in traditional undergraduate programs, but the rise of online programs operating at scale has made it practical for students to develop such a platform dedicated to their particular program. We have used a survey to gather information from students in such a program at a major research institution in the United States. Through this data we explore how many students are using the site, how they use the information, and also how often and why they write reviews. The ultimate goal is to gather information that could help students to decide how to critically assess such reviews and successfully use them to make better decisions.

CCS CONCEPTS

• **Applied computing** → **Collaborative learning**; **Distance learning**; **E-learning**.

KEYWORDS

course reviews, adult education, online education, education at scale, student evaluations of teaching, graduate education

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1 INTRODUCTION

Formal student evaluations of teaching are focused on directing feedback to the professor and the institution, and the information from them is typically not released to the student body. Instead, their purpose is ordinarily to provide guidance for improvement and administrative decisions for the instructor and institution. [15–17] This practice is the subject of ongoing controversy, however, due to evidence of bias in the reviews and fears that instructors may prioritize keeping the students happy (through doing things like making classes easier) to maximize their reviews. [2, 3, 6, 11, 18, 19]

Students also have a strong interest in knowing more about how classes are run and what they should expect, though, and this has

led to the creation of sites where students can unofficially provide feedback that is aimed at their classmates rather than their teachers. [4, 6, 14] There has been great concern in response that such public reviews may not represent a good measure of the quality of a class, and may be harmful to educational institutions overall. [4]

While this is ordinarily done through sites that store ratings across many different institutions, the rise of programs that operate at scale have created an opportunity for students to create tools customized to what they see as the needs of their particular program. The goal of this research is to gather some initial information about how students are creating and using reviews through one such unofficial site devoted to reviews of courses offered as part of a graduate program that is operated at scale by a large research institution in the United States. While some professors and institutions actively discourage the use of this kind of resource, [5, 12, 20] research on the details of how students respond to reviews with actual changes in their decision-making, especially in a population of graduate students who have the additional scheduling constraints that come with working full-time while being students part-time.

University and professor objections have not been able to eliminate such review sites. Given that students see value in these resources and will continue to use them, it makes sense to explore exactly how they're using them and whether there is an opportunity to provide guidance that could help the students to get the most benefit possible out of the information with a minimum of drawbacks.

1.1 Research Context

This work involves students in an online computer science program that operates at scale and awards a Master of Science in Computer Science degree from Georgia Tech. Students are restricted to being enrolled part time and typically have a full time job in addition to their studies [7]. The courses offered cover the same material as their on campus counterparts, and in some cases use identical assessments and run fully in parallel with the same deadlines as an on campus section of the same course. This work is part of a larger project collecting data on how courses operate and are assessed, to better understand how students respond to different approaches and establish research-backed best practices [8, 9]

The review site that students are being asked about in this study is called OMSCentral and is entirely developed, operated, and controlled by the student community [1, 10].

2 METHODOLOGY

Data was collected using a brief survey that was distributed to students in four different courses (one on machine learning, one on artificial intelligence, one on human-computer interaction, and one on education technology), as well as through a link on a forum accessible to all students in the program. For those courses which

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include participation credit in the grading, students were offered a small amount of credit for choosing to participate, though a variety of alternative options requiring a similar amount of effort are available to earn credit. They were also informed that all of the identifying information (necessary to properly allocate the participation credit) would be separated from the rest of their forms before data analysis. Students were asked only for broad information about their use of the site and motivations, and not for any specifics about what they had written or about which classes to ensure that no information was collected that would enable anyone to match a student to reviews from the site.

Surveys were submitted through a site that uses an institutional login, which guarantees that only active students could fill it out and each student could fill it out only once. The survey received a total of 196 responses over the course of a week.

3 RESULTS

3.1 Student Background

The first few questions focused on gathering some information on the background students have with the program and with course reviews in other contexts. Nearly half of the responses came from students who have not completed any courses in the past, as shown in Figure 1. This means that they had either never taken a course in the past, or had attempted to take a course and withdrawn before completing it. A substantial majority, 151, of the students are in the first half of their degree (4 or fewer courses completed of the 10 required to graduate). This is not unexpected, because the pool of courses used to recruit for this survey typically draw a large number of students who are closer to the beginning of the program.

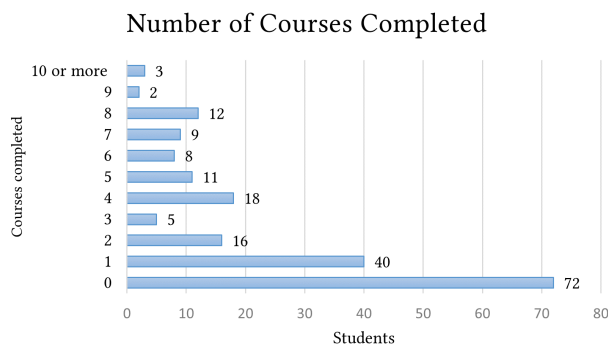


Figure 1: Breakdown of how many courses each student responding to the survey has completed in the program.

Since we are primarily dealing with students who are relatively new to the program, we know that they will not have met most of their program requirements and they will not be under very tight restrictions when they choose their courses each semester. This is useful for our purposes, because students who are at the very end of the program may be at the point where they need one or two specific courses to graduate and have almost no flexibility in making registration decisions.

The gender breakdown of responses is shown in Figure 2 and indicates that most of the submissions came from students who

Gender Breakdown of Students

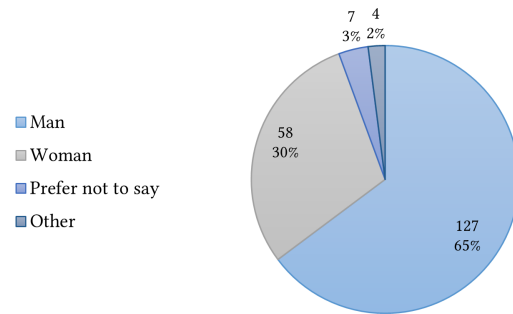


Figure 2: Breakdown of how responding students identified their gender.

identify as men. This is unsurprising, because the program itself is predominately made up of men [7]. Women are somewhat more represented in the survey than they are in the program in general, though the courses used for recruitment draw a larger share of women than most and this number is a reasonable reflection of the proportion of women for this pool of courses.

Past Use of Other Review Sites

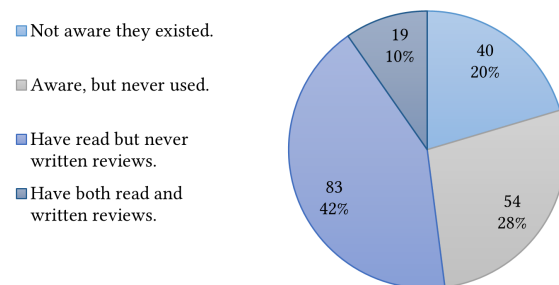


Figure 3: Background on whether students had used other review sites during their past education.

To get a sense of what past experiences students had with the idea and potential uses of reviews for their courses, we also asked them whether they had used sites like RateMyProfessors.com [13] or similar in the past. We asked this to get a sense of whether using this type of site was already routine to the students, or if it was something new that they picked up in this program specifically. About half of the students either had not heard of this type of site in the past or were aware they existed but had never used one as shown in Figure 3. Of those who had used them, a little over a quarter both read and wrote reviews while the remainder only read them without contributing any.

3.2 Use of Reviews

We then went on to ask about how students were using the review site specifically dedicated to this program. As Figure 4 shows, only 6% of the students responding indicated that they had never made use of the course reviews. This is particularly striking considering that the information back in Figure 1 shows that a large proportion of the students were near the beginning of the program. The site in question is operated unofficially by current and past students, and does not have the ability to directly advertise itself to incoming students. We had expected that many students in their first semester would not have used it at all the first time that they registered, because they would not yet have had much contact with other students and would most likely not know that it exists. It appears, though, that they are sharing information among themselves far more efficiently than we had anticipated and even the newest students are aware of this resource.

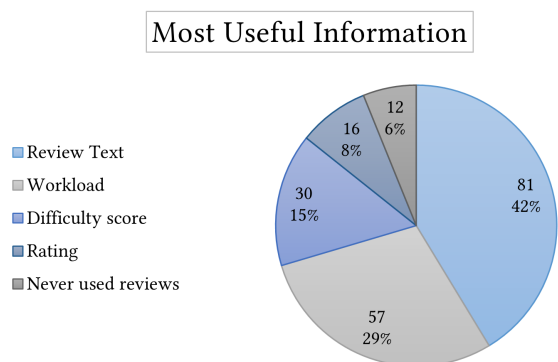


Figure 4: Breakdown of which elements of the reviews students indicated they found most useful.

For those who have used the reviews, they indicated that they find the text written out by reviewers to be the most valuable piece of information, which is consistent with findings in research about other platforms. [14] This is followed by the workload (which is recorded on the site as an average number of hours per week) with the difficulty score and rating having far smaller shares. We had speculated in advance that workload was likely to be the major factor, because the typical student in the program works full time and has significant other commitments they need to balance with their decisions about which course(s) to take each semester. It is interesting that they feel the text is even more helpful than that, and this indicates that it could be valuable to more deeply explore exactly what is being included in the text of those reviews.

It is also interesting that difficulty and favorability rating were judged to be the most useful items only 15% and 8% of the time. Past research and speculation about the reviews on RateMyProfessors has tended to either argue or outright assume that students probably reward easier classes with more favorable reviews. [2, 11, 18] It may be that the students themselves suspect this is true to some degree, and this may incline them to be less interested in those fields than the other information. This could also be a reflection of

the program including students with a wider range of backgrounds than would typically be found on a college campus; rather than being predominantly made up of students of 'traditional' age, the program is average student is in the mid-30s. They may be very aware that some of their classmates only recently finished their undergraduate degrees, while others have several decades of professional experience, and this extreme range of backgrounds makes a flat "difficulty" score difficult to interpret.

How Students Use Reviews

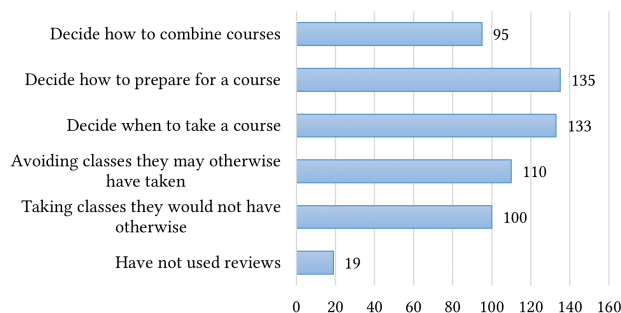


Figure 5: What students used the reviews for. (A single student could select more than one of these).

We also asked the students to provide feedback on how they have used course reviews to guide their decision making and the results are shown in Figure 5. For this question, they were allowed to select multiple options. A similar number of students, about half of all respondents, indicate that they decided they wanted to take a class they would not have taken otherwise as said they decided to avoid a class they may have otherwise taken. The other options move away from choosing courses and focus on more logistical decisions about how to take them. 133 students indicated that they relied on reviews in deciding when to take a course. The survey specified that this could mean what order to take courses in, attempting to align the demands of their course schedule with the expected demands of other parts of their life for each semester, or deciding which classes might be best suited to the shortened terms in summer.

There were 95 students who said they use the reviews to decide how to combine courses, which is only relevant for those who choose to take more than one course in a semester. By knowing which courses have the lightest workload, students can choose to combine two of these into a single semester while taking only one class at a time when they know the course will be more demanding. Each time a student can do this successfully, the amount of time remaining until graduation is reduced by several months (compared to never taking more than one course at a time). Without any concrete input from other students, this strategy would be very risky. This is not an issue that would be as prominent in a full-time program, where students have to take 12 credits (or 4 courses) to maintain their full-time status no matter what.

The most selected use for reviews was to decide how to prepare for a class they were going to take. This may be partly due to the nature of the course material, where a class may assume knowledge

of a specific programming language and students have to pick it up on their own if they are not already skilled with it.

3.3 Writing Reviews

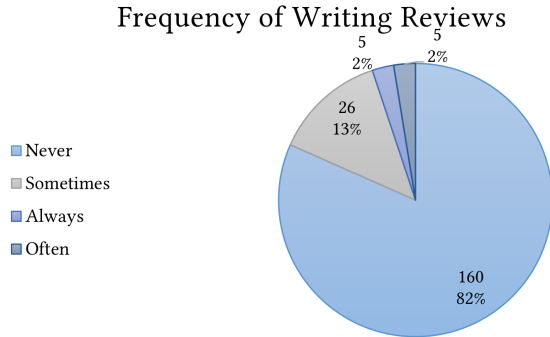


Figure 6: How often each student reports writing reviews for their courses.

The overwhelming majority of students report that they have never written a review as reflected in Figure 6. This is unsurprising, particularly considering that nearly half of the respondents are in their first semester and would have no completed courses to review. If these students are eliminated, the proportion of students opting to write reviews in addition to reading them is similar to the reported use of other sites back in Figure 3. We examined whether time in the program (excepting first-semester students who would have no classes completed that they could review) or gender had any apparent impact on whether students elect to write reviews, but there was no evidence of any effect, though past research has found some indications that gender influences whether students write these types of reviews. [3]

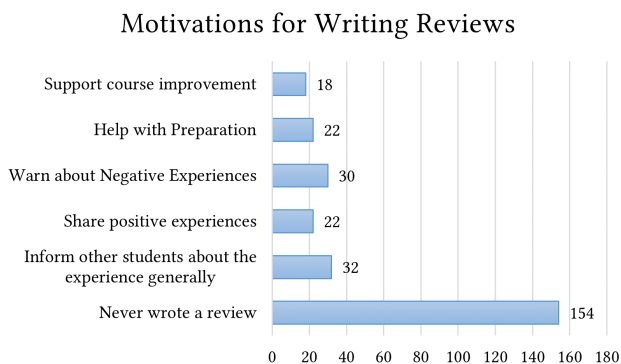


Figure 7: Breakdown of student motivations for writing reviews. (A single student could select more than one of these).

Finally, we asked about their motivations for writing reviews, and the results are shown in Figure 7. They were again allowed

to choose multiple options, which we deemed important because those who write reviews may have done so for multiple classes for completely different reasons. Oddly, there were 6 fewer students reporting that they've never written a review on this question than in Figure 6. It may be that a few of them decided to pick reasons that they intend to write a review for the course they are in this semester, or perhaps pick reasons that they believe may motivate their classmates to write reviews, but we cannot be sure.

The most commonly picked option was to inform other students in a neutral (not especially positive or negative) way, which was chosen by 32 students. Warning other students about negative experiences was slightly behind that with 30, though 22 students said they wanted to share positive experiences. It is surprising that 18 students indicate a desire to support course improvement, because there is a formal anonymous review process run within the program to give students an opportunity to give feedback on their classes directly to the professors. It is also interesting that helping other students decide how to prepare for classes is one of the less picked options, even though (as shown in Figure 5 it is the most popular choice for how students reading the reviews are using them.

4 CONCLUSION AND FUTURE WORK

We have found that the students responding to our survey overwhelmingly opt to read the reviews on this unofficial site as part of making their registration decisions, and that they also use it to gather information about how to prepare for the courses they are taking. Future research should focus on gathering more information about the results of these decisions to determine whether there is evidence that access to this information has demonstrable benefits for students.

- Are students who use reviews to make registration decisions less likely to either fail a course or withdraw before completing the semester?
- Does using reviews to make registration decisions have any impact on how satisfied students are with the course experience?
- Do students who use reviews to make decisions feel a greater sense of self-efficacy in their ability to plan their education?
- Is there specific information that can be included in reviews that makes them more likely to benefit the students reading them?

Whatever future research finds, providing the results to students may help them to be more thoughtful consumers and producers of the information on these types of sites. It may also be possible to develop guidance for the students writing reviews to encourage including the information that is most likely to be beneficial.

Students clearly desire access to this kind of information, enough that they invested time and effort into building a custom website to collect and display them, and then to fill it with thousands of reviews. Rather than dismissing this interest, we can serve them far better by focusing on helping them to make more informed decisions.

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