Teaching and Educational Commentary

Curating Campus Support Resources to Provide Easy Access for All Students

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Abstract

Anxiety and stress levels experienced by students on college campuses have increased over the last decade. The current COVID-19 pandemic and increased racial tensions have likely exacerbated these feelings further. In an effort to improve student well-being and learning outcomes across a large and diverse student body, we created a repository of information on support services offered to students at the University of California, Davis. Starting with a list of questions we encountered in faculty and staff interactions with students in the Managerial Economics major, we developed a frequently asked questions (FAQ) page that provides brief answers and links to important resources. This resource page can be integrated into online course sites or linked in syllabi; serves as a reference for instructors; and gives all students access to crucial information when navigating life on campus. We describe the initial design, discuss the feedback received after piloting it with students, and explain resulting revisions. The presented usage data indicate that students, faculty, and staff are actively engaging with this resource. Our shared experiences offer important insights for faculty and staff at other universities committed to addressing the achievement gap in economics and higher education in general.

1 Introduction

A college degree is associated with financial stability, career satisfaction, and even success outside of the workplace. It usually coincides with students transitioning into adulthood, and can aid the development of independence, self-sufficiency, and confidence. While enrollment in higher education has increased across all populations, young adults have also become more distressed, more likely to suffer from major depression, and more prone to suicide than in previous generations (Twenge et al. 2019). College students in particular have reported increased levels of anxiety and stress (Cooper, Downing, and Brownell 2018), and tragic outcomes continue to receive national media attention (Scelfo 2015; Brody 2018; Bahrampour 2019). To better serve the needs of a growing and changing student body at UC Davis, the College of Agricultural and Environmental Studies (CA&ES) and the Managerial Economics major, in particular, we created a student resource page that consolidated information and links to support services offered on campus into a single directory. Our primary objectives were to:

(1) Provide easy access to important information for students with a particular emphasis on assisting students during times of high stress, and

(2) Support instructors that often serve as a first point of contact for struggling students.

Choosing a FAQ format, this page provides answers ranging from how to find tutoring support and receive special exam accommodations; locate campus health and counseling services; navigate legal assistance for international and undocumented students; prepare for professional careers; and improve overall wellbeing and engage with the larger campus community. Ensuring that information about

support services and resources is easily available to all students is just a first but very important step to addressing disparities in academic performance between groups of students in higher education. Documenting and sharing our experiences in this paper aims at reducing the costs for faculty and staff at other institutions and expediting the design and implementation of similar repositories. A review of resources and services necessary to create these repositories and built-in student and faculty feedback can further expose student needs not sufficiently addressed by support services already in place.

More than 9,000 freshmen and transfer students join UC Davis each year, many of them coming from historically underrepresented racial and ethnic backgrounds (Easley 2018). Ranked number 1 and 2 for agricultural science nationally and worldwide, CA&ES is also the second largest college on campus with more than 7,000 undergraduate students taking classes across its 29 undergraduate majors.[1] A diverse student body is one of the assets of UC Davis and efforts like becoming a Hispanic Serving Institution "shows we're closing the gap on access to higher education" (Chancellor Gary S. May cited in Kitaura 2019). Yet, the ability to succeed on college campuses continues to vary significantly across students. The economics profession in particular includes disproportionately few underrepresented minorities (Bayer and Rouse 2016; Akke 2020).

While all students are adjusting to being away from home for the first time, first generation college students that are predominantly nonwhite and from low-income backgrounds face unique challenges when transitioning to life on campus (Postsecondary National Policy Institute 2018). International students have to overcome additional language barriers and need to adjust to new cultural norms and customs. Managerial Economics is the largest major in CA&ES and the fourth largest major on campus overall. It has seen significant increases in enrollment with disproportionate increases in students from underrepresented minorities as well as international students. It has also experienced significant increases in transfer students and nonresident students as summarized in Table 1. Finally, more than half of the students majoring in Managerial Economics were originally admitted into other majors at UC Davis and have likely experienced stresses and challenges in their academic careers prior to switching into this major.[2]

As instructors, we are often the first point of contact for struggling students, yet we lack the resources to offer additional support that allows all students to successfully navigate campus life and improve their learning outcomes when teaching undergraduate classes of more than a 100 students. Furthermore, missed classes, unsubmitted assignments, and failed exams, often symptoms of student distress, can go undetected longer in large classes. While new and targeted services are continuously added, these resources are dispersed among many centers and can often only be accessed by consulting

Table 1. Changes in the Student Population of the Managerial Economics Major

	Fall 2014	Fall 2019
Number of students in major (late in the Quarter)	1,240	1,632
Transfer students	360	487
Non-California students (USA)	24	62
International students	169	459
Underrepresented Minority (URM) students	165	272

Note: These statistics were compiled using the most recent Student Information System data made available by the Office of University Registrar. Transfer students are those students arriving in our major during their junior year from other institutions and community colleges. They do not include those that arrive in other majors and change majors at a later point in time. The Managerial Economics major is administered by the Department of Agricultural and Resource Economics at UC Davis. Students must choose at least one of four emphases (Agribusiness Economics, Business Economics, Environmental and Resource Economics, and International Business Economics) to select restricted elective requirements that focus on a specific area of study within this major.

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[1] See https://caes.ucdavis.edu/about/overview/facts-distinctions for additional facts and distinction for CA&ES and https://aggiedata.ucdavis.edu/ for the top ten majors.
[2] Although not reported here, Food Sciences observes similar trends.

knowledgeable individuals in charge of particular programs. Many of the academic support services might not reach some of our students most in need of these programs. Our own experiences teaching a variety of large undergraduate classes in two majors within our college—Managerial Economics and Food Sciences—highlighted the need to better support students during times of high stress to ensure that they will not fall behind academically. Simultaneously, we wanted to design a teaching support tool that allows deans, advisors, and staff to share resources with faculty and students more effectively across campus.

Starting with a list of questions we encountered when teaching and soliciting further feedback from faculty and staff about their experiences, we collaborated closely with Academic Technology Services (ATS) staff to design an interactive FAQs page students could access through their Canvas course sites.[3] Piloting and revising our design after receiving additional feedback from students allowed us to continue to make this tool more user-friendly. In particular, we modified our approach to easily disseminate updates and ensure that information posted on individual course sites remains current. It further supported our outreach efforts, allows staff and students to access and share our compiled resources independently of instructor adoption, and allowed us to monitor page use.

The remainder of this paper is structured as follows: we first describe the initial design of the page and subsequent revisions based on the feedback we received in detail. We then present data on page usage and suggestive evidence on improvements in learning outcomes. We conclude with future directions for exploration.

2 FAQ Page Design

Our focus when designing this resource was that all students are able to easily access information when they most needed it, and in a place they already know how to navigate. We decided early on that we wanted to integrate information on available support services with the general course information as much as possible. Students are used to engaging with course content via Canvas course sites. Challenges and distress might arise or be top of mind while trying to complete assignments on this site. A benefit of using these sites is that students would not have to navigate away and actively seek out additional resources when engaging in their own general searches on other websites. Instructors could further reinforce the availability and usage of our resource page by promoting it in their lectures and refer back to it as needed when issues arise with individual students.

We created our resource within the Canvas environment, injecting custom HTML code into the rich content editor such that we could share the resulting page via the content sharing features built into Canvas. Instructors could also just copy and paste the code and customize it before creating a page within their course sites. In the pilot phase of our rollout, we asked select faculty to join us in testing the Canvas page during the Fall quarter in 2017, reaching around 750 students. By arranging student inquiries in a familiar FAQ format, sorting questions by themes, and in the order of urgency within each theme, we wanted to connect students to answers quickly. To not overwhelm students with too much information all at once and make our site visually appealing to students, we created drop-down menus and used simple images, followed by a brief description of relevant services, as well as links to additional resource sites with more detailed information.

The survey data and constructive feedback collected exposed several weaknesses of our original approach and allowed us to review and edit the provided information. Most importantly, once our original code was embedded by instructors and shared, only they had editing privileges, and ATS staff was not able to update, add, or correct information provided on the individual course pages. The burden to keep the material current and address any emerging issues fell on each instructor under our chosen approach.

We decided to adapt the content to a different platform. Our FAQ page is now housed on WordPress.com, and we are able to review and revise the FAQ page as needed and can centrally update

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[3]Canvas is the learning management system adopted at UC Davis.

the page before the beginning of each quarter.[4] We continue to encourage instructors to integrate our page within their Canvas course sites by embedding the page using iFrame elements, but they now can also simply link to our WordPress.com site on their syllabi or other materials provided to students.

Our new approach also gave us broader design options. In the original design of the FAQ page, some of the icons were not visible for some students, and some simply did not work well when trying to guide students quickly to what they were looking for. Some of these difficulties were a result of design limitations within the Canvas environment and permissions to view embedded images. We critically evaluated our original visual icons representing the various categories, added additional pictures, and improved the overall organization of the page. As a result, our page design is more in line with traditional website appearances.

Our revisions further incorporated additional student feedback received with regards to the information provided. Students suggested that in some instances, it was difficult to navigate from our page to the desired and more specific resources. We reviewed our links provided and were able to identify more direct links that made specific information more readily accessible in some cases. We also learned that overall wellness and community engagement were even more important to students than we had originally assumed. While we offered much needed information for students in distress, students felt we did not include enough of these resources in our FAQ page. Food security has become an important general concern among our student population, and students specifically mentioned the challenge of accessing affordable and nutritious foods in their comments. We added a link to the food pantry on campus and now provide other resources that will connect students to various resources in the Davis community as well. We also added information on healthy eating, exercise, and work-life balance. Finally, students asked to include volunteering opportunities, information about social clubs, and other community activities on our page. Although UC Davis students are encouraged to take part in various campus activities and to get involved in the Davis community to develop life skills and play an active role in transforming their community, these opportunities were not easily accessible to all students. We added additional campus and community resources to our FAQ page.

We did not incorporate all recommendations received, however, and acknowledge trade-offs when trying to support all students and instructors in our college and across campus. Students suggested that more specific information on academic advising in their respective majors might be helpful. We are including links to dean's office advising by college, but providing information specific to each major was not the focus of our efforts and was not feasible in this format. We did add language to indicate that advising services are available within each major and encourage students to seek out appointments with academic advisors or reach out to their instructors. This is one area where instructors can offer individual support and already work closely with advising staff in most cases.

Overall, revising our original design was not without challenges. We had to rebuild the page's formatting from scratch, as well as migrate text, links, and images by hand from our original page built within Canvas. In retrospect, we strongly recommend building such resources independent of course managing sites to avoid additional formatting and maintenance costs. Furthermore, during the pilot phase, student access was dependent on the integration of this resource page by each instructor, making it contingent upon their interest in adaptation and familiarity with Canvas tools, as well as overall organization of materials provided to students via Canvas. Instructors can now also include a link to our FAQ page on their syllabi, and students can find and share this resource even when professors are not promoting it. Similarly, advising staff can utilize the resource and promote it with students in individual appointments, via email lists and on social media accounts.

One additional benefit of our redesign and use of a WordPress.com site is that it enables us to directly track page usage. We are presenting usage data collected via surveys during the pilot phase,

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[4] Please visit https://ebeler.faculty.ucdavis.edu/resources/ to view the FAQ page as well as instructions provided to instructors.

newly available page analytics, and briefly discuss suggestive evidence on the effect on learning outcomes in the remainder of the paper.

3 FAQ Page Adoption by Students and Faculty

We began our assessment of student use of our developed FAQ page by distributing a survey during the pilot phase. Table A1 in the Appendix documents the five questions included in our brief survey in two of our own classes taught during the 2017 fall quarter. We received 166 completed survey responses. Eighty-two percent of students felt that the resource was easy or somewhat easy to navigate, and 73 percent said they were likely to use the page again. Furthermore, 69 percent of respondents said they would recommend the resource to other students, an aspect made easier after our revision. The following three comments further illustrate the overwhelmingly positive reaction even prior to our revisions and highlight that students felt our resource is particularly beneficial to new and incoming students:

> *"It was really easy to find information because it was all categorized based on the questions we had . . . I found everything I needed, and I am sure other students will be able to have an easy time as well. I really appreciate that we have these resources available to us because it makes life so much easier. Thank you."*

> *"I would definitely recommend this to freshmen and other students that are wanting to learn more about resources and information offered by the colleges."*

> *"I thought all the information was very useful. I would definitely recommend using this to a first year student."*

These positive responses as well as the constructive feedback offered were already an indication that students actively used this resource. Once we migrated our revised FAQ page to WordPress.com, we were able to access usage data more directly.

We started promoting this new approach prior to the 2019 Spring quarter and observed a more than 500 percent increase in usage at the beginning of the Fall quarter. We continue to observe significant spikes at the beginning of each quarter as shown in Figure 1. These are likely a combination of our targeted outreach efforts and heightened attention of students during that time. Prior to the beginning of each quarter and with the support of the CA&ES's Dean of Undergraduate Studies, we email all faculty about our resource, include selective feedback to motivate its use, and include instructions for a Canvas page integration or inclusion of the link in their syllabi. We also recommend that instructors introduce this resource to their students during the first week of classes. The dean's office support staff commented that the FAQ page "is an excellent resource for all of our students" and has started to actively encourage all faculty to integrate our FAQ page into their course materials through other channels. They for instance introduce new faculty to this resource during faculty orientation events. Furthermore, we continue to promote our resource directly among instructors within our departments, especially those newly hired. Overall, these efforts resulted in 91,516 total and 70,242 unique page views to date.

For the large number of new faculty that recently joined our campus community, many of which are asked to teach large undergraduate classes, this resource can be particularly useful. It can improve their teaching effectiveness and engagement with students, and in turn minimize their anxiety and experienced stresses. To receive direct feedback on the usefulness of our tool to instructors, the dean's office reached out to new faculty in particular with a follow-up email. The following comments received indicate that our tool indeed supports their teaching efforts:

> *"This is excellent and will be perfect for my class. Most of the students this quarter are new transfer students. Thanks*!*"*
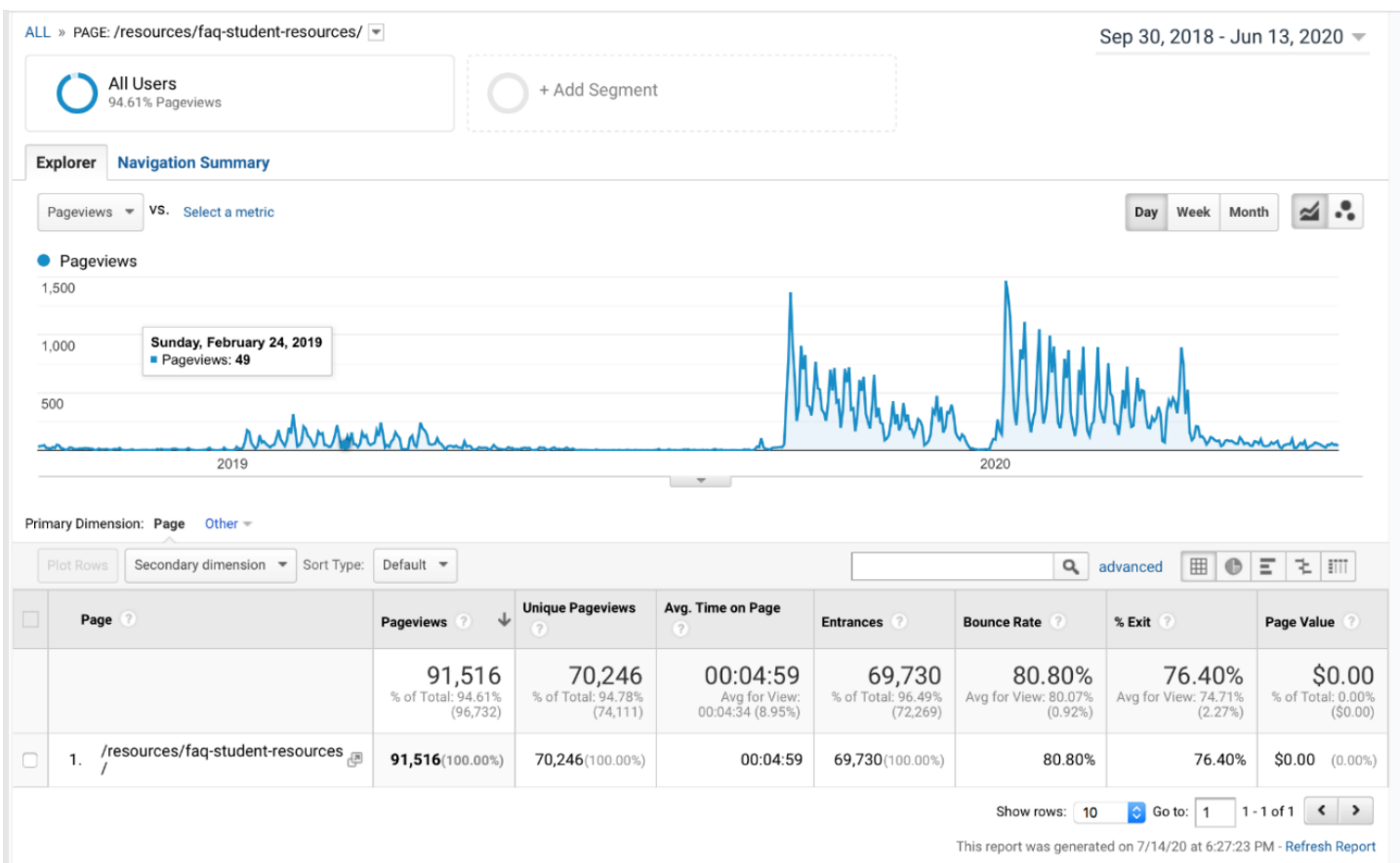
Figure 1. FAQ Page User Statistics

Note: This graph depicts user statistics over the time period of our WordPress implementation. We began promoting this resource with faculty prior to the spring quarter of 2019 and continue to observe significant spikes at the beginning of each term when we intensify our outreach efforts. While we saw an increased use at the beginning of the 2020 spring quarter with 892 page views on the first day of the quarter, students significantly reduced their continuous interactions for the remainder of this remote teaching quarter.

"This is a great resource for students. I've included it on the Canvas site for a course I'm teaching this fall and forwarded the info to share with department faculty."

"As a professor who teaches a very large enrollment undergraduate class (570 students), I find that some students may need tutoring or writing support. Having this tool enabled me to direct my students to the right campus resource for help."

Finally, while we are not able to directly measure the impact on learning outcomes, we have noticed that more students have taken advantage of special accommodations like increased exam time and help with note taking, as well at tutoring and writing services in the large classes we teach. The quality of writing for submitted final projects has also improved, especially among international students. A look at time to graduation further revealed a slight increase in the rates of students graduating on time in our major. Among freshmen who arrived from 2012 to 2015 at UC Davis, those in Managerial Economics graduated on time at a rate of 70.5 percent compared with the campus and CA&ES averages of 61.87 and 66.06 percent.[5] For transfer students arriving in our major between 2014 and 2017, the on-time

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[5] The on-time graduation rate in Food Sciences increased to 77.80 percent and is almost on par with the 2030 campus-wide goal of 78 percent.

graduation rate of 64.10 percent is significantly higher than the campus and CA&ES averages of 48.20 and 39.71 percent. It approaches the 2030 campus goal of 66 percent.[6]

4 Conclusions and Future Directions

Increased levels of anxiety and stress continue to impact students overall well-being for a large share of the over 30,000 undergraduate students currently enrolled at UC Davis. Although student diversity is one of the assets of large public institutions like UC Davis, the ability to succeed on college campuses varies significantly across students. As instructors, we are often the first point of contact for struggling students. However, we often lack the resources to support students in unique situations and from diverse backgrounds in achieving course-specific learning outcomes or overall academic success, and students in distress can go unnoticed in large classes. We wanted to explore ways to make the already existing support services offered on campus accessible to as many students as possible while at the same time minimizing the additional burden put on instructors teaching large undergraduate classes.

Our own experiences and additional feedback from faculty and staff led us to design a repository of information on support services in a FAQ layout. We placed a particular emphasis on assisting students during times of high stress, making the resource easy to use, and keeping the information provided general enough such that it can be used across campus effectively. Several revisions have made it easier for faculty to integrate our page into their course materials on Canvas or share a link in other course material provided. Staff and students can now also share the resource independently. Finally, our revised approach allowed us to better track usage, and we continue to observe upward trends in both page views and unique visitors.

Our data analysis, though limited, strongly indicates that we have created a valuable student resource page that supports teaching and learning in our majors, and we continue to expand our outreach and promotion to allow more faculty and students to benefit from this comprehensive resource guide. Prior to the start of the 2020 spring quarter, we have incorporated information about COVID-19 and included links to updates for the campus community as well as resources created specifically to support students during these extraordinary times. Transitioning to remote instruction has made it even more critical to ensure that all students have easy access to information about support services in one place. What is striking is that while we see the same spike in usage at the beginning of the 2020 Spring quarter, Figure 1 also shows a significant decline in usage for the remainder of the remote teaching quarter. Many of the services we compiled limited their operations, and their websites referred students back to the same COVID-19 student resource link we had added at the beginning of our page. Students might have directly referred to this centralized page throughout the remainder of the quarter in an attempt to address urgent issues rather than repeatedly consulting our more comprehensive resource guide.

Of course, making information easier accessible to all students will not be enough to reduce the hardship and distress disproportionally experienced by some of our students. Our analysis of 2019 graduation data revealed that while slightly increasing as well, students from underrepresented minorities and international students continued to have lower on-time graduation rates in our majors and across campus. Being able to address diverse outcomes across specific groups of students will require a more thorough evaluation of why we continue to see an achievement gap in higher education, including potentially different levels of preparedness prior to arriving on campus and additional support needed once here. The transition to remote teaching and learning likely increased existing disparities and added new challenges—some students thrived at home while others were unable to fully participate or concentrate on learning. Some but not all of them reached out asking for help or special accommodations because of their unique situations directly. We are actively involved in a systematic review of institutional biases that hinder and new approaches that support learning outcomes for students from underrepresented minorities, and continue to explore ways to support every student's well-being and

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[6] In Food Science 52.90 percent of transfer students in graduate on time.

success. Ensuring that information about support services and resources is easily available to all students is just the first but very important step in these efforts.

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Appendix:

Table A1. Student Feedback Survey During Pilot Phase of Implementation

Survey Question	Response Options
Question 1. ELECTRONIC CONSENT: Please select your choice below. Clicking on the "agree" button below indicates that: ● you have read the information on the first page of this quiz informing you about the context of this survey ● you voluntarily agree to participate ● you are at least 18 years of age If you do not wish to participate, please decline participation by clicking on the "disagree" button.	Agree Disagree
Questions 2. How easy was the site to navigate?	Very easy Somewhat easy Neutral Somewhat difficult Very difficult
Question 3. How likely are you to use this site in the future?	Very likely Occasionally Rarely Not very likely
Question 4. How likely would you be to recommend this site to another student?	Very likely Might recommend Neutral Not very likely
Question 5. Was there anything or any information that you were looking for and could not locate?	Yes. If yes, please briefly describe. No

Note: This survey was distributed to two large undergraduate classes taught by one of the coauthors each during the 2017 fall quarter. We received 166 completed responses.