Academic Advising during Pandemic: How did it change?

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Abstract

Academic Advising is a structured program existing in almost every US College or university to help students navigate through the undergraduate or graduate curriculum. Effective academic advising is considered a core requirement for student success in engineering programs. It may occasionally involve mentoring students in areas and activities related to their professional success such as advising on internships, co-ops, and industry-institute collaborated curricular programs.

Several strategies have been developed over the years to streamline the process and make it less taxing for both faculty and students. Among them are degree planning software, database management, online resources portal, office of undergraduate advisor, on campus student support services, student wellness, and experiential learning opportunities, to name a few.

With the recent COVID crisis, as the schools and colleges shifted to online learning, so did academic advising. While the positive impact with in-person advising is well documented and accepted, many advisors found it challenging to translate their successes from in-person advising to the remote context. At the same time, students who typically could ask their instructors or advisors during class for advise now had to proactively and deliberately approach their advisors. The advising needs of the students was also impacted during the pandemic. This compounded the challenges to advising as colleges had to rapidly adapt to remote advising.

In the present paper we attempt to study the changes to the students' advising needs prior to the COVID (2019) with those during the COVID (2020) at Rowan University in NJ. Data on student advising was collected via email inquiries over these four semesters specifically for the Mechanical Engineering department. Themes were identified into queries related to course enrollment, course grades, majors and minors, certificate programs, retention/attrition, course add-drop, attendance, hardships experienced, transition to newer learning platform and technical difficulties associated with it, graduation requirements/criteria, career/internships, Professional Societies, personal issues, health/mental issues, and Waivers. By studying the above data, the authors hope to identify how advising changed pre-Covid and during Covid phases. The motivation was to provide insights into which areas to focus and strengthen if faced with similar circumstances in future.

Introduction

Effective academic advising is a crucial parameter in determining student success, retention, and their overall educational experience. It creates a positive feeling among the students, regarding their college, faculty, and future prospects. Academic advising has evolved over time to become an integral part of the higher education process. With the expansion of curricular opportunities, significant increase in the number of undergraduate non-traditional students and the increasing emphasis being placed on student recruitment and retention by the universities, the academic advisor is today seen as an integral and unique contributor to any undergraduate college degree program[1,2]. The academic advisor serves to facilitate communication, coordinate learning experiences, address students' psychosocial needs, and help steer students in attaining their personal and career goals. Students place more importance on the supportive and caring nature of their relationship with their advisor. This relationship has been widely recognized as being crucial for students' academic success.

Academic advising primarily involves guiding students in curricular matters such as academic policies, course of study, grade evaluation and grading policies, course prerequisites, meeting graduation requirements, transferring credits, meeting university degree requirements, navigating through majors and minors, academic standing including spotting early warnings, attendance, and ensuring a reasonable progress of the student towards their graduation. It may occasionally involve mentoring students in areas and activities related to their professional success such as advising on internships, co-ops, and industry-institute collaborated curricular programs. Majority of the advising activities take place in-person via individual meetings or classroom announcements. Unsurprisingly, this aspect of advising was notably impacted recently.

Due to the sudden change in recent circumstances precipitated by the pandemic and post pandemic environments educational institutions scrambled to transition to alternative methods of education delivery. In-person advising was not feasible due to stay-at-home orders, lockdowns, or self-imposed social isolation by the students out of concern for their own personal safety. Several colleges rushed to enhance their technological infrastructure in preparation for a complete online transition. Teaching and advising, were quickly adapted for a web-based environment in an effort to continue supporting students and limiting disruptions in their academic pursuits. It is understood that with in-person instruction, students were free to ask for

academic advice to any faculty, regardless of their assigned advisor. With mass transition to remote instruction, students were left with limited avenues for seeking advice. Were academic advisors well equipped to discharge their advising responsibilities with equanimity and quality while balancing their non-advising responsibilities? How well were they able to cater to the needs of the students which, incidentally, had unexpectedly changed as well?

In the present paper we present the changes to the students' advising needs prior to the COVID with those during the COVID at Rowan University. Student questions via email to three advisors were collected over these four semester specifically for the Mechanical Engineering department. The queries were grouped under specific categories based on their subject such as course enrollment, course planning, course performance, career guidance, professional advice and personal issues. The objective was to identify how the various categories were impacted pre-Covid and during Covid phases. This will provide a valuable insight into which areas to focus and strengthen under similar circumstances in future.

Background

Advising is a process comprising discussions, sharing experiences and expressing opinions. Its overall effectiveness is impacted by a number of factors mainly by its structure, content and intensity, advisor accessibility, delivery method and relationship building[3]. The council for the Advancement of Standards in Higher Education has outlined a broad range of learning outcomes that should be supported by the academic advising structure. Though in-person individualized advising is usually accepted to be the most effective form of advising, this may be practically unrealistic for many universities due to the high student to advisor ratio. As a fix some understaffed advising offices shorten the advising sessions while some include a virtual component to advising. This can lead to insufficient student engagement or a loss of personal touch. Recently virtual or online advising is being integrated as a part of the university student information system, where students can gain access to their advisers outside of regular school-time, from anywhere and get tools to help them succeed. This offers some degree of flexibility. The recent COVID pandemic caused a major disruption in several educational institutions worldwide. Students and faculty faced both academic and non-academic barriers. Various universities sought to lessen its aftereffects by maintaining continuity of services through alternative means such as transition to online instruction and advising. Institutions which adopted

technology-mediated advising launched new initiatives to address issues faced by students and to enhance student–advisor relationship building. Micro check-ins and flip advising (where the student takes the lead in the advising session to shorten the traditionally long advising session) were some of them. Some barriers faced by the students during the pandemic were problems understanding the conceptual framework of online learning, academic burdens and workloads, limited interaction with other students and boredom[4]. Online advising requires technology-infused tools for both synchronous and asynchronous advising, in areas involving student affairs, teaching, and enrollment management[5]. Some colleges especially those which catered to the underserved student populations (e.g. low-income, first-generation, racially minoritized backgrounds) witnessed declining enrollments and attrition which was in part attributed to advising inaccessibility[3]. Some authors contend that the online transition has only exacerbated the already challenging situation resulting in stress and exhaustion among the students and their advisors[6]. Zoom fatigue, net connectivity issues, familial obligations (such as caring for sick family members) are just a few of them to mention. Because each student's need is different, since the demographics and the situation are different, the human touch cannot entirely be replaced by virtual advising. Some authors have written about how students faced widening barriers in higher education due to lack of informed guidance as a result of inability to adapt to virtual formats, particularly those who were not proactive about their next educational steps[7]. The International Association of Student Affairs and Services (IASAS) mentions a comprehensive set of out of- the-classroom student services that are designed to "enable and empower students to focus more intensely on their studies and personal growth, both cognitively and emotionally[8]. It mentions three key objectives that higher education institutions should aim for (1) identify the needs of its online and face-to-face learners, (2) ensure that services are available when the learner wants them, rather than when the institution is ready to provide them, and (3) ensure that the virtual services are as good as or better than the in-person equivalents.

Methodology

Existing Advising Structure and Resources

At this Rowan University, the students are provided with the advising services by both the University Advising Services (UAS) as well as the College of Engineering. The University Advising Center (UAC) serves as the advising hub for advising related information where

trained professional staff aid students in admission, registration and courses selection. It incorporates the Student Success Programs which include an array of services geared toward helping students achieve academic success. These include general advising, career advancement, education abroad, disability resources, first-year programs, testing, tutoring and military services.
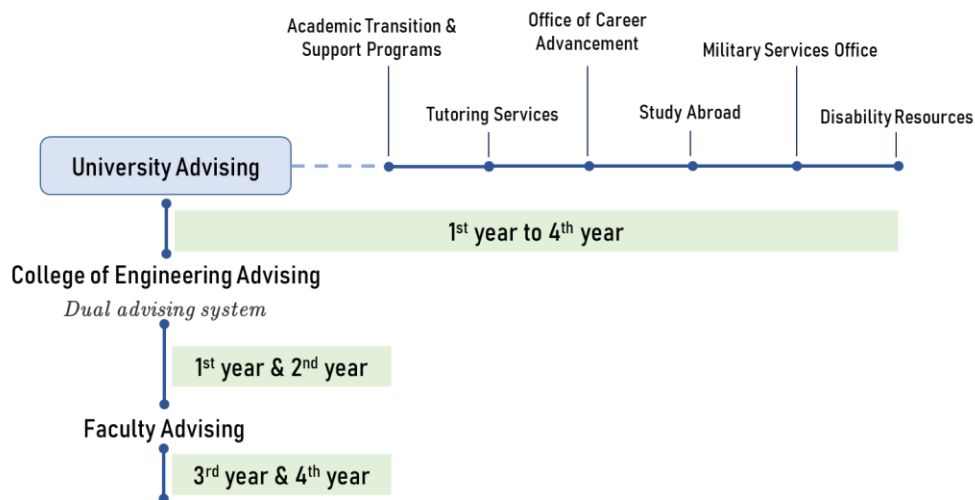
Figure 1. Advising structure at this university

The College of Engineering supports a dual advising system comprised of professional advising and faculty mentoring. It has the office of the Assistant Director of Academics which serves as the professional advising arm. It is aided by the undergraduate coordinator which is usually an individual engineering faculty member. Both combined, advise the first-year and second year students with their transitional needs. Professional advising is occasionally supplemented by faculty advising within the student's engineering discipline who help them connect their coursework to engineering as a profession. The professional advisors serve as the first resource for general engineering and university inquiries, such as course sequence, college and university processes and policies, registration and administrative processes, campus resources and help them figure out which branch of engineering to pursue (undeclared or undecided majors). First-year and sophomore students are assigned to professional advisors by last name.

The advising is implemented on an online platform using the tools Starfish and DegreeWorks. Starfish which is an online student engagement tool is used to connect faculty and students. It can track the student's class performance and lets students schedule appointments with faculty and support professionals, access their student success network and easily find contact

information for campus offices. DegreeWorks is a web-based tool for students to monitor their academic progress and graduation requirements toward degree completion.

Students transitioning to the third year are assigned to faculty advisors within their major discipline. Faculty advisors provide guidance on discipline-specific coursework, course content, advanced studies, career, industry, etc. In the mechanical engineering department there are two faculty undergraduate coordinators: one coordinator for the original students within the department who are progressing from one year to the next year, as well as another coordinator for the transfer students joining the department from another university or community college. Traditionally advising at this university has mostly been a mix of in-person and online (via emails). Students are free to meet with their advisors if they wish to discuss anything important they might consider or they are free to resolve their issues via emails. Students also are free to seek advice from their course instructors. This is common due to the comfort students develop with their instructors over time. Alternatively, students set up an advising meeting with their faculty advisor or less formally stop by at their offices for quick inquiries. General advising information is presented to students during orientation as well as during other optional sessions offered in the fall term.

Though in-person advising has been proven to be more successful, as valuable stakeholders the safety and welfare of the students is also of priority especially during pandemic situation. This was the reason for sudden transition from in-person to a complete online advising around mid-March 2020. Online or virtual advising at this university stayed as the main mode of advising until the Fall 2021 semester. It is therefore important to assess the success of this advising transition, by examining the available data and identifying any achievement gaps that might have negatively impacted the program outcomes. From mid-March 2020 till August 2021, the advising information webpage linked to the departmental website was significantly ramped up to provide the students with a wealth of information on

a) navigating the advising portal and follow up with the advisor, making connections
b) credit hour, degree audit, degree requirements
c) enrollment in courses, academic schedules, hybrid, remote, synchronous/asynchronous courses, WebEx, Zoom
d) financial resources, support services, dealing with the pandemic, besides other things.

Data Source and Analysis

Since the majority of the need for advising help is initiated through emails by the students together with the fact that in-person channel of communication was significantly cut-down during the pandemic, it was decided to treat the students' emails as our only source of data for the purpose of this article. Pre-pandemic inquiries however were not done exclusively through emails. For instance on certain occasions students assigned to other faculty advisors would on a very short notice stop outside the undergrad coordinator's classrooms, before or after their classes, to meet with them and to get advice on their questions. This is probably because they felt this was one of the easiest ways to get prompt advising help. Certainly one of the major pandemic impacts was not having easy access to the advising faculty as they may have had prior to the pandemic. From the standpoint of documented conversation too, email was better.
The categories were decided by conducting a survey of the emails with the aim to capture the major themes in them (Fig 2.). This way, major trends can be easily identified.

Figure 2. The main advising categories considered based on the student emails.

These categories are mentioned below in bold and the criteria described. From surveying relevant literature the authors confirmed that these categories were common to most of the institutes of higher education which had advising integrated into the curriculum as well.

1. **Course enrollment** (includes pre-requisites, class capacity, late add/drop, and related inquiries)

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2. **Course planning** (when and what courses/clinics to take, rescheduling due to failure/hardship)
3. **Course performance** (students struggling with a course and seeking advice)
4. **Career Guidance** (internships, job applications, future path)
5. **Personal** (personal struggles or struggles with faculty or courses)
6. **Professional Advice** (job decision, pay or interview questions, challenges related to jobs, recommendations)
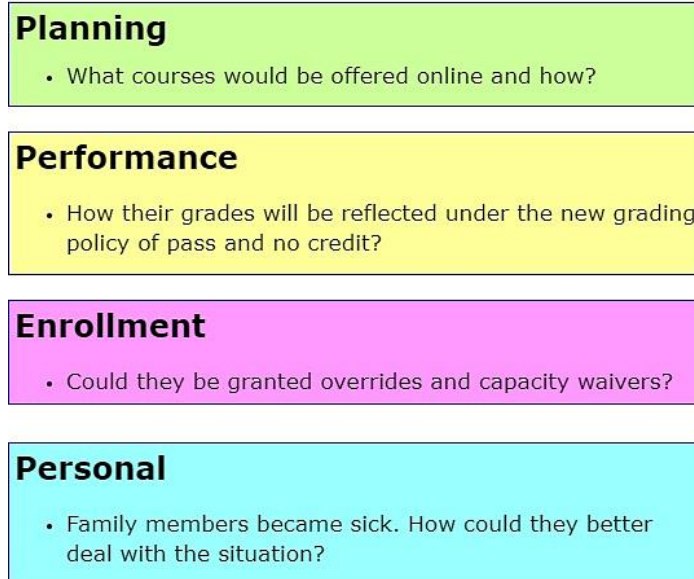7. **Others**

Results

Questions asked by the students were broadly grouped under three timelines. A pre-pandemic phase (Fall 2019 semester), pre-pandemic to pandemic transition phase (Spring 2020 semester) and the pandemic phase (Fall 2020 semester). Summer advising (May – August 2020) was not considered. In the pre-pandemic phase the classes and advising were conducted in-person, during the pre-pandemic to pandemic transition phase the university transitioned from in-person to remote instruction and advising, and in the pandemic phase everything was being carried out in the remote format. It is understood that the Fall 2019 enrollment and planning questions were related to Spring 2020 courses and similarly the Spring 2020 questions were related to Fall 2020. Data beyond Fall 2020 was not considered because of a new curriculum adopted by the department. Inclusion of this later phase would have a compounding effect on the outcomes. The tally of student advising inquires via emails is presented in Table 1. The numbers represent frequency of questions related to the categories.

Overall the data presented in Table 1 shows that Enrollment related questions remained high pre-pandemic phase and the pandemic phase and later dropped in Fall 2020. This was likely due to better preparations and messaging by the faculty related to their courses. Enrollment inquiries overwhelmingly included students asking for course overrides for capacity and pre-requisites. Many students chose not to live on campus during the pandemic, so travel to campus for an in-person class was not always feasible. Students who had both online only and hybrid classes had to plan time to transition between the two.

Table 1. A tally of student advising email queries distributed across the various categories.

Categories	Fall 2019	Spring 2020	Fall 2020
Enrollment	89	86	54
Planning	100	161	144
Performance	6	46	30
Career Guidance	3	6	5
Personal	0	15	6
Professional Advice	5	9	8
Other	2	6	3

For example, a student who was planning to do a course online would need to be in close proximity to the campus if that course was followed by an in-person meeting. For this reason, students often requested specific course sections. Some students needed online only sections, while others wanted to take advantage of any course that had an in-person meeting time. Sometimes this was evident at the time of registration, at other times it was not entirely clear how a professor was going to run the course.

Planning
- What courses would be offered online and how?

Performance
- How their grades will be reflected under the new grading policy of pass and no credit?

Enrollment
- Could they be granted overrides and capacity waivers?

Personal
- Family members became sick. How could they better deal with the situation?

Figure 3. The most common question among the 4 highest categories.

Planning related questions notably increased during the pandemic phase as did the performance inquires. For planning inquiries, students often asked about what courses would be offered online and how. For the reasons previously mentioned, students often had specific needs for their

courses. Many students were also working jobs and wanted to plan course load around their employment commitments.

The jump in performance inquiries were related to the students deciding on how their grades will be reflected under the new grading policy of 'pass and no credit'. Students were very concerned as to how a Pass grade would be interpreted by graduate schools or future employers. Students had the option to select the Pass/Fail grading system and many needed assistance with this decision. Some were concerned that their GPA would be adversely effected by the Pass option, which was incorrect. This new alternative to grading increased student's stress over grades in many cases with trying to determine the best course of action.

Some students also expressed concerns regarding their performance for a variety of other reasons. Students were often in a new learning environment, being in a virtual environment with others surrounding them in the room. Concerns with course performance often related to the students' ability to grasp the information being taught online, being motivated to put in a full effort, and students' inability to discuss with peers the concepts being taught. Some students were not as willing to ask questions in a virtual environment of the instructor, and their retention of the material was thus negatively affected. Internet connection issues were also a factor at times.

Related trend was observed for the personal, professional, and other categories. Examples include students needing to work increased hours due to the pandemic. Several students had family members that became ill and they needed to assist them. Sharing technology with other members of the household could also be an issue, as well as having a quiet environment to work in. Student levels of stress and anxiety were at a high and some reached out for help regarding this.

Inquiries regarding Career Advice and Professional Advice were consistently low across the semesters. This raises the question of where students are going with career and professional advice related questions. Students may be reaching out to Career Services, the Engineering Outreach Office, or other resources on campus directly. It is evident that students are not reaching out to their advisors for these type of inquiries in a great number. The most often asked question in each of the four highest category has been shown in Fig 3.

Discussion

It is understood that pre-pandemic email inquiries constitute a sub-set of the advising questions, as opposed to the pandemic time frame when email advising was often the only advising avenue for the students. However, the data set yields some interesting trends that can provide unique insights. Reflecting upon the radical shift that was made on an incredibly shortened timeline in response to the pandemic it is not hard to imagine the transformational way in which the students, programs and institutions were impacted and at the same time challenged by the presenting situation.

Looking at the data we can see that advising enquiries in general was higher for Fall 2020, compared to Fall 2019. This is possibly the strongest indicator of COVID-related impact. The pivot to emergency remote teaching and learning caught both the students and faculty in an unfamiliar territory. Perhaps blending both Face to Face (F2F) with online teaching and learning during non-emergency time periods will equip both the faculty and the students with the necessary experience and know-how in navigating the challenges of 100% remote learning during transition in emergency times. The most common reason related to the sudden increase in student inquiries was how to overcome the challenges and uncertainties posed by the sudden online/remote teaching or advising both technologically and circumstantially. In a face to face setting collaboration and communication happen easily and with hardly any challenges. Several doubts that the students would typically have are usually clarified through communication with their peers when they meet each other in person daily during their curricular activities. This was lacking during the remote transition which eventually led to the spurt in need for information by the students. The obvious way to address the increased need for information through clear messaging by the program to reduce uncertainties.

Planning related inquiry was the highest followed by enrollment related inquiries. This is quite understandable. Some planning inquires eventually turned into enrollment but those were tricky to de-convolute. Most planning related inquiries were of the type '*Which courses to take in the next few semesters*', or '*How should they go about getting a minor, a concentration or a certificate in a particular field of either the science or engineering discipline*'. Often plans were disrupted because students decided to alter their course schedules during the pandemic. This readjustment warranted further advising for course corrections.

Career guidance enquiries are least among the six main categories. This may have to do partly because of the fact that the punctuational change to remote instruction and advising was wrought with short-term academic challenges such as '*how will the student pass the course with a good grade*' or '*how will the credit requirements be met for a traditionally lab-based course*'? This short-term thinking can naturally remove their focus from thinking about career, which is usually a longer term undertaking. Another reason could be that the university has been lagging to some extent in matters of career mentoring and is still playing catch-up. Overall, it is unclear why the career guidance discussions saw a drop during the pandemic. It is well documented that students struggled to secure jobs during the pandemic but at the same time they solicited advise less frequently. Was it because students were at home with their parents and prefer to seek their advise? Was it because students struggled to connect with their remote instructors, or both? Or was it because they were overwhelmed by the immediate uncertainties that they could not be bothered by their careers? These aspects remain to be explored.

There was an increase in performance related enquiries between Fall 2019 and Spring 2020 and then a modest decrease in Fall 2020. The sudden shift in the learning environments from in-person to remote opened up a Pandora's Box of unforeseen challenges such as difficulty in understanding the course materials; hardware, software and internet related hurdles; obscurity on certain academic policies, and course plans; and non-conducive learning or working atmosphere at home. This threw both the students and the instructors into an unfamiliar pedagogical and learning terrain. There wasn't enough time and hence the opportunity to develop assessment techniques that correctly mapped to the changed academic environment. The resulted in lowered academic performance for several students and widened achievement disparities between low-performing and high-performing students. Hence we see a jump in the performance related enquiries between Fall 2019 and Spring 2020. After the abrupt transition in the instructional and advising environments several improvements were suggested and initiatives taken to refine the environments. The students had also begun to gain experience in dealing with the existing situation. Thus we see a drop in the performance related enquiries between Spring 2020 and Fall 2020. This could be attributed to the better knowledge and experience acquired in previous semester on how to handle the difficult situation and successfully navigate oneself through it.

To capture a more holistic view of the changes in advising during the pandemic a survey of student perceptions would have helped. However, there is a strong sense that the students are

suffering from survey fatigue considering the uptick in various studies related to the impact of COVID. Advising often gets relegated as a low priority over academic needs of the students. However, this work suggests there are notable gaps where the system can be more resilient to sudden changes. Establishing good channels of communications between the students and faculty that do not only rely on in-person interaction is critical as a start. It is obvious that when there are sudden changes to the norm, students will experience anxiety about the changes and naturally ask for clarity. Often it is up to the administration to provide the clarity without burdening the advisors who may better be off providing career and planning advise to their students.

Conclusions

The COVID-19 pandemic caught the academic world by surprise. It forced higher education institutions to respond with different solutions overnight in an unplanned way. The present work studied the changes to the students' advising needs prior to the COVID (2019) with those during the COVID (2020) via email inquiries. Besides the overall trends described this work, the study revealed some future areas to explore.

(1) Academic advisors already shoulder a heavy load teaching and/or a research load. The educational institutions should explore alternative advising modalities to shoulder sudden increase in the faculty workloads. The shear increase in the number of student enquiries during the pandemic substantiates this point. This would not only ensure an unhindered continuity in the students' learning but may also save the academic advisors from becoming overwhelmed with sudden increase in the workload and stress. This will positively impact the quality of advising during such difficult times.

(2) The reluctance of the students to ask questions when they are not in person (as in remote transition) could be addressed by adopting different strategies. One of them could be assessment of the campus climate to understand how students are feeling during remote learning with technology such as social isolation and classroom experience. Seeking out perspectives on the diversity, equity, and inclusion components on campus would help faculty in engaging the students and getting them to work effectively, across physical distances. The data collected above could be compared with the exit feedback provided by the students when they graduate in which they will be specifically asked to comment on their experience with undergraduate advising they received.

(3) As future suggestions we can recommend that instead of one-on-one advising appointments group advising sessions be implemented that would provide information to many students needing basically the same information, such as course enrollment, drop-add policies, etc. Developing a peer-mentoring program could be another way to help them build relationships and connections among themselves and thus alleviate the feelings of hesitance and reluctance in approaching a faculty advisor. Additional supplementary way to help the students could be through adoption of a new online integrated information system that replaces existing ones, such as E-Academic Advising, which helps advisors and students make better use of the university student information system. Offering virtual appointments to the students on a regular basis may be idea worth following.

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