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IMPACT OF COVID-19 ON EXAMS OF UNIVERSITIES AND COLLEGES

ABSTRACT

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Introduction:*COVID-19 has had a profound impact on the delivery of global education. Due to the epidemic, millions of students were impacted by the closure of educational institutions, which culminated in the greatest online education movement in history.*

Aim of the study:*When one university went into lockdown for COVID-19, researchers wanted to find out how the rapid move from face-to-face to online distance education affected students.*

Material and method:*The grades of 376 students who finished a face-to-face course in spring 2019 were compared to 372 students who completed the same course through distance learning in spring 2020 during the lockdown period. Two groups were compared on the results of their quizzes, course work and final exam marks using a t-test method. Both groups were compared using a chi-square test. The influence of gender, credit hours, age, and CGPA was evaluated.*

Conclusion:*The findings of this study will be very important for universities and other developing nations as online distance learning has been determined in all future higher education programmes. More students, better cost-savings, and more university income are all possible outcomes of this move.*

Keywords:*Learning, Teaching, Covid-19, Examination, Pandemic, Students etc.*

1. INTRODUCTION

1.1 Overview

The Coronavirus is a kind of virus that spreads through the body. The Covid 19 epidemic is wreaking havoc on the global health system. The virus has had an influence on practically every nation, both directly and indirectly, and the lives of millions of people have been irreversibly impacted as a result of it. When schools and colleges were permitted to function during the pandemic, students were compelled to remain at home in order to prevent infection and death from the virus, which would have happened if schools and colleges had been allowed to open throughout the outbreak. Most schools and universities are now using webcams and mobile phones to conduct their scheduled classes online, and this trend will continue. A rise in the popularity of online courses that are either pre-recorded or available on demand via sites such as Coursera, Unacademy, and Udemy has been seen recently. Because Covid survivors and those who survived the lockdown may not feel as confident about sending their children to school or college as they were before Covid, institutions may be compelled to develop online courses to address these demands.... The upshot of this is that instructors and professors will have to react

to this new situation in order to be more consistent while delivering their lectures and course content through the internet.

A review of the literature was conducted in order to gather relevant information for the research on the influence of Covid19 on India's education business, as well as the issues and opportunities it brings. Because access to online databases maintained by the university was impossible due to the institute's lockout, the internet was used to locate pertinent research publications. Obtaining relevant research papers for this project was accomplished via the use of the internet and Google Scholar, respectively. Some of the search phrases used were Covid 19 pandemic, Corona virus, Wuhan Coronavirus, and other related topics. The effect of the pandemic on students, instructors, and academic institutions is well documented. The pandemic's influence on the government's educational policy decisions is being investigated. A comparison between the school closures mandated during the pandemic and the problems and possibilities offered by Covid 19 for the delivery of education, as well as the challenges and opportunities given by e-learning, online learning, and remote learning solutions, is presented. It was difficult to find studies that accurately compared this year's shutdown to the one in 1919, which was triggered by the Spanish flu. E-learning and online learning as a whole did not exist in 1919, so finding studies that accurately compared this year's shutdown to the one in 1919 was difficult. The snowball strategy was used to search for and identify new concerns in the present situation in order to compile a list of research papers that were of particular interest.

Using the keywords, we were able to locate relevant publications, which we then thoroughly reviewed before making a final choice on which ones to include in the literature review –

1) When searching for studies, it was critical to seek for ones that addressed and explored the difficulties associated with the paper's central objective, with little or no focus placed on instances of success.

2) It was also discovered that professors who chose not to participate in the development of the institution's own e-learning or online education programmes had been conducted.

3) Additionally, papers that did not present the primary issue in a difficult to understand manner for the general reader were considered a bonus.

4) Those papers that were relevant to the study's basic aim and did not detract attention away from the primary goal were included in the article.

1.2 Difficulties and challenges;

However, e-learning has its own set of obstacles and challenges, and these issues have grown more pronounced because of the implementation of lock down.

- ✓ **Learning Style and Cultural Challenges**

Because e-learning encourages students to learn on their own by providing them with online resources and study materials, it differs significantly from the traditional classroom-style teacher-student learning setting, in which the instructor pushes the student to learn by utilising the available materials, which is the case in most traditional classrooms. The e-learning slogan is Gnothi Seauton, which translates as "Know Thyself," since the best teacher a student can have is himself. In the absence of a peer who can verify the material's authenticity, a student may assume that the knowledge he or she is learning is right, even if it is erroneous, since he or she does not have somebody to check the information with. Furthermore, since some students are rapid learners while others are slow, it is possible that not all students would learn at the same pace. On-demand instructors may be allocated to students so that they may have their worries and issues addressed if they are unable to do so via the online learning environment, helping them to create strong foundations for their future studies.

- ✓ **Pedagogical E-learning Challenges**

If students' learning levels, comprehension levels, memory retention and recall levels, and other quantitative variables connected to the delivery and receipt of education are not taken into consideration, the development of e-learning courses will be difficult and time-consuming to accomplish. Academics who design or advise on the design of content must keep up with the latest technological developments in the field of information and communications technology in order to avoid wasting their time and resources on ineffective content. They must also ensure that the content they deliver to students is useful. Additional benefits may be obtained by including a feedback mechanism into the e-learning material, allowing students to voice their questions, concerns, and complaints to the product creators, allowing them to be addressed and resulting in beneficial results for the students.

- ✓ **Technological Challenges**

The introduction of e-learning products and systems raised a variety of problems, some of which were technological in nature. Many goods have their own set of pros and drawbacks, making it difficult to pick one that will appeal to the broadest range of tastes and preferences. A well-known e-learning application, such as 'Blackboard,' is restricted to a certain environment. As a consequence, because of its distinctive traits, it discourages student engagement and limits academic staff and students to the constraints of the environment, restricting the academic staff and students to the confines. Many other things are subjected to similar difficulties as a result of manufacturer requirements and other technological constraints. This is a significant barrier to the general adoption and popularity of e-learning systems.

- ✓ **Technical Training Challenges**

Because e-learning products are so different from traditional educational methods, there will be a need for preparation instruction for students and teachers who will be using them in their classes. In order for the teacher to be able to aid students in properly grasping the product, he or she must first get familiar with the product itself. In order to get the most out of the product, you must teach it in a way that takes into account the unique characteristics of each person, so that he or

she can grasp how to use the product and teach it, and therefore get the most benefit from it. An experienced instructor who knows the product well and out will be able to provide solutions to students' questions, problems, and challenges in a convenient "one-stop shop."

- ✓ **Time Management Challenges**

One of the most difficult challenges to overcome in order to get the most out of e-learning products and platforms is time management. Students may use e-learning resources at any time of day since they are not constrained to the traditional classroom hours of 9 a.m. to 5 p.m., as they are in traditional classrooms. Teachers must keep up with students who have signed into the system so that they may monitor their progress and provide advice/solutions for any problems they may be experiencing. Students who have signed into the system are called "sign-in" students. A teacher who does not know when his student would use the system will have difficulty matching him with other students in the batch. Because students are grouped into batches based on time slots for the product, it is difficult for a teacher to match him with other students. Due to the fact that the instructor does not know when his student will be online, there is a possibility that students may attempt to contact or attract the attention of the teacher at times when the teacher is not available. As a result, there may be misunderstandings. To address this issue, we will collaborate with students to develop batches that are acceptable for the intended application.

2. LITERATURE REVIEW

Kantipudi, Mvv Prasad & Dr(2021) Covid-19's global epidemic has a significant impact on higher education institutions. Disrupting final exams, finishing curriculum, and beginning new academic year are just a few examples of how this disaster has affected students and their families. The Covid-19 epidemic inspires educational institutions and stakeholders to embrace remote learning, as well as presenting a new challenge to the global economy. This article discusses the difficulties that higher education is facing in the wake of the Covid-19 outbreak, as well as some possible remedies. Covid-19 has had an influence on higher education in India, and this study tries to characterise that impact and recommend how the Indian higher education system might go forward. To keep India's online education system running smoothly, low-cost internet access should be made available to all residents. Furthermore, by educating both students and faculty members about online teaching and learning resources, we may be able to build a world-class education system even after Covid-19.

Shaibani, Tarik & Naguib(2021) The COVID-19 epidemic had a significant impact on medical schools, as well as other educational institutions. There is a lot of contact between instructors and students, and even patients, throughout the latter years of medical school. Since March 2020, the College of Medicine and Medical Sciences at the Arabian Gulf University has used virtual teaching/learning as an alternative to face-to-face instruction in response to the pandemic. Moodle and Zoom were employed as online teaching tools by the institution. The purpose of this research was to compare students' performance on final examinations in a face-to-face and virtual environment to assess the efficacy of virtual medical education.

Showkat, Ahmad & Dar (2021) Despite technological advancements, traditional methods of learning (face-to-face lectures in a classroom) are still prevalent in Indian educational institutions (schools, colleges, and universities). Despite the fact that many academic institutions have embraced blended learning, many others continue to rely on antiquated teaching and learning techniques. The world was rocked to its foundations as a consequence of the SARS-CoV-2 outbreak caused by the Coronavirus. All educational activity in India has come to a halt as around 32 million pupils have opted not to transfer to other schools or educational institutions. Change is unavoidable in the wake of the outbreak of COVID-19, as we've discovered. When the World Health Organization declared it a pandemic, it sparked an increase in the number of educational institutions and the deployment of cutting-edge technological solutions. Considering the circumstances, educators all over the world were forced to make the transition from a traditional classroom setting to an online learning environment overnight. To continue using outdated methods of teaching and learning, many academic institutions found themselves with little choice but to change their ways. The research includes a SWOC analysis of numerous e-learning strategies, which is particularly important during times of crisis. This research study shed some insight on the emergence of EdTech Start-ups during times of pandemics and natural catastrophes, and it also provides suggestions for educational institutions on how to deal with the issues associated with online learning.

Jena, Pravat (2020) Every element of human existence, including education, has been severely impacted as a result of the spread of pandemic Covid-19. It's developed a new kind of educational assessment. Campuses have been shuttered and classes are now conducted entirely online at a large number of educational institutions throughout the globe. We're seeing less and less cross-border activity. A total of 32 million students in India were prevented from changing schools or colleges, therefore putting a halt to all forms of education. Higher education institutions (HEIs) have responded favourably to the epidemic and have managed to keep teaching-learning, research and service to the community going using various tools and strategies. As discussed in this piece, one of the significant effects of Covid-19 on Indian HEIs is discussed. In this article, we'll take a look at some of the methods used by Indian educational institutions and authorities to keep classes running smoothly despite the current economic downturn. Many new ways of learning, new views, and new trends have evolved as a result of the Covid-19 epidemic, and the same may hold true as we go forward into the future. We've identified a few of the post-Covid-19 trends that might inspire new ideas for higher education teaching and learning in India. Educative activities may be carried out in the midst of a pandemic, as well, according to some helpful recommendations.

Rashid, Shazia & Yadav (2020) The breakout of COVID-19 has had a devastating effect on the global economy and the higher education sector. With the unexpected shutdown of campuses to avoid community transmission, face-to-face classrooms have been replaced by online learning systems as social distance measures. As a result, eLearning tools and platforms for successful student engagement have been thrust into the spotlight, which may not be accessible or affordable for many students. Higher education needs additional training in digital technology in order to keep up with the fast-changing educational environment throughout the globe, which the pandemic has highlighted. The usage of eLearning and virtual education may become a vital

feature of the higher education system in the aftermath of the epidemic. The post-pandemic teaching and research strategies must be planned by higher education institutions and universities in order to assure student learning outcomes and educational quality.

3. OBJECTIVES OF THE STUDY

- For the purpose of shedding light on the numerous steps taken by the Indian government to safeguard the educational system during this epidemic.
- To emphasise the good educational outcomes of COVID-19.

4. METHODOLOGY

There may be a social phenomenon that includes culture, technology, and human behaviour during the COVID-19 outbreak that should be taken into account. Therefore, a wide range of methods and techniques are needed. As a result, a hybrid technique of investigation that incorporates both quantitative and qualitative instruments was recommended. When comparing online versus face-to-face instruction, the first step was to assess how well students fared. Student satisfaction with the university's online distance education site was measured during the COVID-19 lockout by conducting two questionnaires. Online interviews with academics were undertaken to get insight into their experiences with online distant learning.

4.1 First: Course Grade Comparison

In this study, students' performance discrepancies between online and face-to-face training were compared using course grades. All four quizzes, a midterm, and the final are compared. Grade point average (GPA), grade point average (GPA), number of credit hours, and student level are considered independent variables. In the present study, these academic and demographic characteristics were taken into consideration because they have been shown to influence academic achievement, and not because the course was being taught online vs. face-to-face, as was previously thought. For second-year business students at a private institution, MIS202 was taught in both face-to-face and online formats during the COVID-19 pandemic. The grades of the students were compared between the two modes. The curriculum, materials, test bank, number of quizzes and assignments, student assessment methods and timetable, and weighting of assessment are all the same for courses presented in 2019 and 2020. Exams from Spring 2019 and Spring 2020 were compared to see how well the blueprints matched up in terms of content, ILOs covered by questions, and difficulty levels. The same four professors taught the course in both semesters being compared.

4.1.1 Grade Comparison Sample

A total of 748 students from Future University's Faculty of Business Administration participated in the research. Both samples are composed of 376 face-to-face and 372 online participants who finished the MIS2020 Introduction to Programming course (MIS2020) in the Spring 2019

semester, respectively. Independent factors in the research include gender, GPA, credit hours completed, and age of students, as previously noted. 43 percent of the 748 students were female, compared to 57 percent of the male pupils. In both samples, the proportion of females was almost the same (44 percent female for the face-to-face sample and 39 percent female for the online sample). The average GPA for all participants was 3.15, and it was almost same for all samples (3.41 and 3.02 GPA for the face-to-face and online sample, respectively). Face-to-face and online students in their second year completed an average of 42 and 45 credit hours, respectively. Table 1 shows that the demographic and independent factors of the two samples were separated by teaching mode, with participants' ages being almost identical in both samples.

4.1.2 Course Instruction

MIS202, an introduction to information systems, was taught by four faculty members from Future University in (FUE). They've been teaching the course together since 2015, and three of them have been teaching for almost a decade. The four professors were recognised for their strong communication and teaching abilities by their students' official evaluations, gathered by FUE at the conclusion of each semester. Class activities and textbooks were same in both the face-to-face and the online courses. Assigning and doing assignments were both equally challenging.

Classes were held in an on-campus classroom twice a week for two hours each in the spring of 2019, and all course materials were posted on Moodle, the FUE's official e-learning platform, in advance of the sessions. In the on-campus office, every professor gets a weekly office hour. Moodle is still the primary means of communication between students and faculty members at FUE, as well as among students enrolled in the same course. Assignements and course announcements are both made available via Moodle. The COVID-19 lockdown in Spring 2020 was performed through online sessions utilising Zoom, with each session lasting two hours and the URLs to session recordings being provided on Moodle. These sessions were recorded and made available on Moodle. To make it easier for students, we've put everything we need on Moodle. For online courses and session recording and backups, each FUE student received a licenced Zoom account and the university's bandwidth and data centre were expanded. Office hours were held on Moodle during the COVID-19 shutdown, and each professor was accessible online during office hours on Moodle. Discussions were held in online chat rooms and discussion boards, both live and on-demand. IT staff at the university gave students with round-the-clock online assistance via Moodle, where they could click an icon to get help right away.

4.1.3 Course Assessment

Course grades were used as a measure of student achievement in this research. In both online and face-to-face formats, the course grade computation was equal. The final exam grade (40 points) is added to the course work to arrive at the final course grade, which is a number between 1 and 100. (60 grades). Assessments include three quizzes (each quiz is graded out of 10) and three exams (each exam is graded out of 10; in the face-to-face course, four quizzes were done and best three marks selected) (each assessment is marked out of 10). As a rule, both face-to-face and online quizzes and examinations were developed by the four course instructors utilising the same

test bank. Quizzes and the final exam were administered in paper form on campus for face-to-face training, while they were delivered online through Moodle for online instruction. During tests and quizzes, students had access to online proctoring and technical help, and they may submit an online petition with screenshots if they ran into a difficulty that prevented them from finishing the exam or quiz. Following an IT check, instructors have the authority to approve the petition and hold a make-up test or quiz for pupils.

4.1.4 Data Collection Procedures

It took a full year and a half of data collection (from February 2019 to June 2020) by the author of this research, a full-time professor at Future University in (FUE), who taught MIS202 to students at FUE between Spring 2019 and Spring 2020 to compile the grades of both groups of students. The institution granted permission for the anonymous analysis and publication of the data for scholarly reasons. In June 2020, a student satisfaction survey was uploaded on the university's website to solicit input from students. Online surveys were sent to all students, not only those enrolled in the course under consideration. An interview with a few professors who taught online courses for FUE students during the shutdown was also conducted by the author in July 2020. To discover more about what it was like to study online during the COVID-19 lockout, we surveyed students and interviewed teachers.

4.1.5 Grade Comparison Results

Students in both online and face-to-face classes at the same institution were studied in this study to see whether there was a difference in student performance between the two groups. First, a t-test with the computation of mean, standard deviation, and difference was used to study this research topic. Students' average and standard deviation grades are shown in Table 2 based on their modality of teaching. Neither the overall grade nor grades for quizzes and course work and the final exam were significantly different. The standard deviations of course grades for both types of teaching were found to be comparable. Both groups were compared using a chi-square approach (the 2 ranged from 0.60 to 2.3 with df = 1, and the p value was less than or equal to 0.10). Using the Chi-square test, you may see whether the distribution of grades between the two groups of students differs statistically. In addition, it is important to note that the grades of A (90), A+ (90), B+ (90), B (90), C+ (90), C (90), C (90), C (90), D+ (90), D (90). If a student's grade falls below 50, he or she may withdraw from a course under university restrictions, which are normally made public two weeks before the final test.

Table 3 shows the distribution of grades by success/failure and marks for face-to-face and online courses. Compared to face-to-face pupils, online learners had a slightly greater rate of A's and B's. There was a little larger proportion of C's and D's among face-to-face learners, but their success rate was much higher. However, when comparing the grades of both groups with a critical value of 7.7 and a degree of freedom of 4, no significant difference was discovered. No substantial difference in grade distribution between the two groups was identified. Table 3 shows that students with higher GPAs do better in online courses, but students with lower GPAs perform worse when taking classes online. Distance studying during the COVID-19 lockdown robbed students with poor GPA of the advantage of support and mentorship mechanisms given

by the institution on-campus, hence this outcome was predicted. When comparing the different GPA averages, a two-way ANOVA test was employed to see whether there was a significant difference in performance between online and F2F students. In addition, the Chisquare test was used to see whether there were any gender disparities in the performance of online and face-to-face learners. There was an alpha level of 0.05 for significance in the Chi-square test. As a result, the four independent factors had no statistically significant impact on student performance in the two groups of learners.

Table 1: Separation of demographics and independent factors based on teaching styles

Variable	Face-to-face	MeanOnline	All
Student enrolment	376	372	748
Gender (female)	0.44	0.39	0.43
GPA	3.41	3.02	3.15
Credit hours	42.54	45.11	44.25
Age	19.48	20.00	19.98

4.2 Second: Professors' Interviews

Future University has conducted interviews with a select group of eight full-time professors from a variety of academic disciplines (FUE). It was an interesting and challenging experience for participants in the COVID-19 lockout to be questioned about their overall experiences with online distance teaching.

4.2.1 Interview Sample

All of the interviewers had at least ten years of teaching experience, and at least five years of teaching experience at the institution. In this study, the sample was gender-balanced and all participants were acquainted with Moodle, the university's e-learning platform; however, no one had ever taught courses using Zoom. It was decided that half of the people who would be interviewed had a strong IT background while the other half had some IT abilities but not enough to be considered for inclusion in this study.

4.2.2 Interview Procedures

Zoom conferences were used to conduct the interviews. It took around 20–30 minutes for each interview session, and data gathering came to a close by way of saturation, which occurs when a sense of closure is achieved with repeated responses. As part of the first interview process, we asked academics about their opinions about online teaching, what inspired them to adopt online tools, and what issues they encountered when utilising these tools. Interviewed participants were

invited to provide their thoughts on their experiences of online long distance teaching during the shutdown, as well as suggestions on how to make it a better experience for everyone. It was done by textual analysis of the recorded sessions. Repetitive patterns were discovered by looking at a transcript of data acquired in a methodical logical manner. After that, a code was assigned to each pattern. To tell the narrative of the data in a coherent way, relevant codes were merged into overarching themes.

Table 2: Comparison of course grades

Assessment items	Face-to-face			Online			Difference	t-Test	
	Mean	Std.dev	N	Mean	Std.dev	N	Mean	Value	p le
Quizzes	26.122	4.812	376	25.120	5.271	372	1.002	1.445	0.0
Coursework	25.675	4.348	376	25.001	4.746	372	0.554	1.161	0.0
Finalexam	26.006	12.143	376	25.123	12.654	372	0.661	0.260	0.0
Totalgrade	87.815	17.352	376	85.374	19.341	372	2.331	0.74	0.0

Table 3: Semester total grade distribution

Success (%)												
Grade	**A**	**A-**	**B+**	**B**	**B-**	**C+**	**C**	**C-**	**D+**	**D**	**Success**	**Fail (%)**
Face-to-face (N = 376)	12.72	7.51	13.01	10.98	10.98	13.58	8.96	9.24	2.89	2.89	92.76	7.24
Online (N = 372)	13.58	8.321	14.21	12.09	9.03	14.98	8.89	4.51	2.04	2.95	90	10

5. RESULTS AND DISCUSSION

Due to the COVID-19 lockout at one of the colleges in, a rapid change from face-to-face to online distance learning has been examined in this research. Using 376 students in total, the study examined the difference in academic performance, in terms of course grades, between students who took the same course on campus in Spring 2019 and those who took the same course online during the COVID-19 lockdown in the Spring 2020 semester, both taught by the same professors. In order to compare students, course grades were chosen as the key consideration. Student satisfaction surveys and e-interviews with instructors were also done during the COVID-19 lockout in an effort to gather general information regarding the online learning experience.

There was no statistically significant difference in students' grades between the face-to-face and online teaching modalities of the identical course during the COVID-19 lockdown semester and the semester before. Students' performance in both groups was not affected by demographic or academic characteristics. Students in online and face-to-face classes performed equally well in both trials, which is in consistent with earlier research done in 2019 before the epidemic. Current study reveals that students' grades were not harmed despite the absence of infrastructure and lack of expertise in online education because of the pandemic, even if there was a dearth of familiarity with online education. Students with higher GPAs were shown to do better in online courses, whereas students with lower GPAs were found to perform worse. This finding was not determined to be significant, but it is evident that students have been deprived of much on-campus help since the COVID-19 lockdown. There was little one-on-one help and advice for students with poor GPAs from older students, teaching assistants and mentoring personnel. If a student needs help or is suffering academically, he or she expects more communication and interaction from the teacher. The more engaged they feel with their teacher, the more they believe they are learning. Addition of an e-mentoring function may help students in areas of weakness by giving additional resources and/or answering student inquiries as well as scheduling online sessions with mentoring professionals.

6. CONCLUSION

The purpose of this study was to assess the impact of a rapid move from face-to-face to online distance learning at a university in. Students' and instructors' opinions were taken into account when comparing course grades and assessing the overall learning experience. According to the findings, this unexpected and abrupt transition at the time of the pandemic did not result in a negative learning experience. However, the results offered particular suggestions for the future use of online distance learning. It is critical for higher education institutions to consider enhancing the technological infrastructure, providing responsive troubleshooting services, and creating robust communication channels between management, students, and professors. When designing university portals, designers must guarantee that students and teachers have a high level of involvement. Additionally, the university portal's mobility function should be highlighted. Although it's too early to tell how COVID-19 will affect education systems

throughout the globe, there are hints that it might have a long-term impact on the trajectory of learning innovation and digitalization. Online distance learning may benefit from the findings of this research, which provide specific guidelines and examples of good practise. For institutions in underdeveloped nations, the findings of this study are extremely important since they have opted to include online distance learning into their future plans for higher education.

It is possible that despite the study's findings that several demographic and academic variables (gender and age, GPA and credit hours) had no influence on the outcomes, the sample size may still be a restriction. Only one business faculty at a single university was included in the sample, and the course was taught in both formats to second-year students. Students should be compared over a longer period, not just two consecutive semesters, for more reliable results in future studies. It is recommended that future research use other academic and demographic characteristics and additional courses such as lab-oriented classes to widen the breadth of findings. In the future, additional colleges in the area and throughout the globe may be consulted to examine regional variances and potential cultural nuances. To get a better sense of how online learning affects students in the short and long term, future research should take into account factors like student involvement and retention as part of the whole learning experience, rather than focusing just on course grades.

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