

Business Ethics during the COVID-19 Pandemic: Quantitative Analysis of Remote Learning on Business Students

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Abstract

Recently, the COVID-19 pandemic has impacted the education system in immeasurable ways. Given this uncharted scenario, it is vital to gain a nuanced understanding of students' remote learning experience during the COVID-19 pandemic. Although many studies have investigated this area, limited information is available regarding the comparison between business ethics students' performance before and during the pandemic in their final grades. Thus, this study attempts to add more information. The research method included a quantitative comparative analysis using a one-way ANOVA to determine whether a statistically significant difference existed between business ethics students' final grades before COVID-19 and business ethics students' final grades during COVID-19. The dependent variables were 1) In-person business ethics students' final grades and 2) business ethics students' final grades who met remotely during the COVID-19 pandemic. The independent variable was the course instruction method. Using constructivist learning theory, the researcher related student performance to instructional method. The findings revealed that the performance of business ethics students showed no statistically significant difference in student final grades across semesters. Their greatest challenge was linked to their learning environment, while their slightest challenge was technological literacy and competency. The findings further revealed that the COVID-19 pandemic considerably impacted students' ability to focus due to stress. To cope with the stress, students used university resources, including the student resource center, computer labs, and student support staff. Implications for classroom pedagogy and future research were discussed. This study contributes to the knowledge on further adapting to online instructional methods delivering higher education business materials. Future research could expand the subject matter to include further analyses of extraneous variables such as socio-economic class, educational infrastructure,

and preferred learning styles.

Keywords

COVID-19, Remote Learning, Online Learning Strategies, Higher Education, Constructivism

1. Introduction

Technological advances in education instruction and learning have expanded since the 1990s with the introduction of the internet (Szymkowiak, Melović, Dabić, Jeganathan, & Kundi, 2021). Online learning platforms for business academia across different learning contexts, including remote and virtual learning, increased during the COVID-19 pandemic (Amaewhule & Avurakoghene, 2021). Business educators offering e-learning platforms during the pandemic provided more inclusivity for student access (Joseph, Oghenebrorhie, & Aghogho, 2022). The increase in e-learning platforms allows instructors to interact with students, communicate efficiently, and facilitate student empowerment (Al-Shaya & Oyaid, 2021; Ejdys, 2021). For example, all learning materials can be integrated into online, blended, or traditional settings to improve teaching and learning by allowing students to access coursework independently (Al-Shaya & Oyaid, 2021; Çevik & Bakioğlu, 2022). Business instructors can view students' coursework and progress outside of lectures. Some e-learning platforms integrate e-learning tools and face-to-face teaching to encourage collaborative learning (Sternad Zabukovšek, Deželak, Parusheva, & Bobek, 2022). Modern education proponents recognize the benefits of incorporating technology in instructional methods but also accept the challenges of implementation (Maatuk, Elberkawi, Aljawarneh, Rashaideh, & Alharbi, 2022; Rasheed, Kamsin, & Abdullah, 2020).

Recently, the education system has undergone significant changes to the way education is delivered (i.e., the COVID-19 pandemic). The education system includes public and private local education organizations such as elementary, secondary and unit districts, area vocational education centers, special education cooperatives, and higher education institutions (Jamoliddinovich, 2022; Mukhtasar et al., 2022). Modern technology has prepared the educational system for change while empowering students and educators to participate in various settings no longer requiring a physical presence (Ejdys, 2021; Jamoliddinovich, 2022). Unlike physical classrooms that are limited by space, virtual classrooms expand across nations, availing their users to an unlimited amount of knowledge (Wang, Lee, Braud, & Hui, 2022).

Perspectives on the education apparatus have evolved to focus on a more student-centered approach (Valtonen, López-Pernas, Saqr, Vartiainen, Sointu, & Tedre, 2022). Technological advances increased during the mid-1990s, including the expansion of the Internet and multimedia (Bond, Zawacki-Richter, & Ni-

chols, 2019). By the late 2000s, smartphones and social networks became widely accepted by educators for teaching and communication tools (Bond et al., 2019). A shift has occurred over the past decade in the education system from being teacher-centered to student-centered (Shin & Hickey, 2021). Learning outcomes are the first component in the student-centered approach course design (Schreurs & Dumbraveanu, 2014). Modern learning environments allow students to construct their own learning through relevant learning activities (Schreurs & Dumbraveanu, 2014). The teacher's responsibility includes creating an environment that supports students' capacities to achieve learning outcomes (Schreurs & Dumbraveanu, 2014). In this way, technology has improved the way students learn.

Without preparation, several educators were caught off guard in adapting to remote learning requirements of the COVID-19 pandemic. Thus, various governments across the globe have launched a crisis response to mitigate the adverse impact of the pandemic on education. Some adjustments include asynchronous and synchronous e-learning formats. Asynchronous learning empowers students to learn using materials outside of the lecture, including recorded lectures (Rehman & Fatima, 2021). The synchronous method provides a virtual classroom experience where students can view learning materials, the instructor, and their peers on desktop and mobile devices in real-time (Rehman & Fatima, 2021). Changes adopted included but were not limited to instructional delivery methods, technology, semester start and end dates, and assessment. Without knowing the consequences of such changes, educators were left in a predicament; transfer to complete virtual learning until control of the COVID-19 virus was attained (Iglesias-Pradas, Hernández-García, Chaparro-Peláez, & Prieto, 2021). Given today's uncertainties, it is vital to measure the impacts of the pandemic on student performance. Comparing student performance gives the researcher more clarity on the challenges students experience in virtual learning spaces. The current study could help business instructors accommodate students' learning needs strategies in this new learning environment. This understanding would provide relevant information to school administrators and teachers to standardize proactive protocol on handling additional shocks to the system.

2. Literature Review

Some experts disagree on how much the pandemic impacted students in achieving learning outcomes or educational objectives. Engelhardt, Johnson, and Meder (2021) conducted research on student performance using standardized post-tests in introductory macroeconomics, microeconomics, and statistics courses. Authors concluded no significant differences existed in student performance across semesters before and during the pandemic (Engelhardt et al., 2021). Additionally, authors found across two thousand students that the pandemic did not significantly affect student-learning outcomes, measured by course grade or a fixed diagnostic test provided to all students in the course. Some students experienced

small losses on standardized post-tests while others earned higher overall grades in the COVID-19 affected semester (Engelhardt et al., 2021). While smaller-scale studies do not provide virtual learning generalization protocol, they do highlight learning considerations. These studies lay the groundwork for determining local scale variations in student performance.

Some studies found no difference in grade-based student learning outcomes between course delivery methods. For example, even in the highly experiential learning setting of medicine, Kronenfeld et al. (2020) found no statistical differences among 27 students who completed a clerkship compared to 24 students from the previous (2018-2019) academic year in the same course block. Additionally, there were no differences in the students' weekly quiz, oral examination, or written examination scores when comparing students on their rotations during the 2020 COVID-19 crisis to students in the previous semester (Kronenfeld et al., 2020). Similarly, Shahba, Alashban, Sales, Sherif, & Yusuf (2022) indicated no statistical drop in grade performance during the spring 2021 semester tutorials in pharmaceutical quality control remotely delivered to students via e-learning. In their study, authors revealed that instructors delivered interactive e-lectures using innovative software, including videos, relatable case studies, and group projects (Shahba et al., 2022). Students reviewed the lecture material before attending the virtual classes (Shahba et al., 2022). Questionnaires among 29 Saudi universities, including faculty and students, helped authors analyze data from remote-learning courses compared to in-person course offerings (2018-2020) (Shahba et al., 2022). Results indicated that mean comprehensive exam scores increased from 83.8% for in-person participants to 89.2% for interactive e-learning participants, and faculty and students experienced favorable views of the latter (Shahba et al., 2022). Other studies focused on qualitative data to gather student perspectives on their experiences. For instance, Lin (2022) posited that students retained more information in statistics while meeting in-person with instructors versus e-learning. However, while students expressed higher overall satisfaction with the statistics course in-person, evidence suggested that offering online zoom lecture meetings greatly enhanced students' satisfaction with the course and reduced e-learning on boarding deficiencies (Lin, 2022). In another study, researchers found that students preferred using e-learning technology to increase their motivation and participation (Al-Qahtani & Higgins, 2013). Improving overall engagement increases students' ability to process information and experience valuable interaction involved in these types of online learning platforms by allowing a safe, productive space to share ideas (Peñarrubia-Lozano, Segura-Berges, Lizalde-Gil, & Bustamante, 2021).

The negative impacts of distance learning include student learning outcomes and grades. For instance, some studies identified lower participation and overall grade performance compared to in-person course sections (Finlay, Tinnion, & Simpson, 2022). Grade polarity increased during the pandemic among students in virtual learning environments (Zhao, Cao, Li, & Li, 2022). Students in one

study performed differently based on location. Zhao et al. (2022) confirmed that access to fast and reliable internet helped urban students perform better than rural students who lacked such services. Second, rural students reported lower behavioral engagement in virtual learning courses than urban students based on a survey including 492 Chinese middle school participants using a Blinder-Oaxaca decomposition analysis (Zhao et al., 2022). While the social gradient of education outcomes has not increased during the pandemic, learning inequalities were further exposed during the pandemic (Blaskó, Costa, & Schnepf, 2022). Paltry, unreliable, and inconsistent mobile applications contributed to student frustrations during the pandemic (Putra, Liriwati, Tahrim, Syafrudin, & Aslan, 2020). Some students found difficulty in coordinating time management and understanding how to submit assignments (Tuma, Nassar, Kamel, Knowlton, & Jawad, 2021). With limited information on students' home environment, access to technology, support from loved ones, the importance of providing tools targeted to promote high performance has become urgent (Afzal & Crawford, 2022; Blaskó et al., 2022).

Differences among student populations and demographic attributes contribute to difficulties acclimating to virtual learning environments (Hermanto & Srimulyani, 2021). Predictive student preferences for online learning tools might depend on demographic attributes (Prasetyanto, Rizki, & Sunitiyoso, 2022). Browning et al. (2021) evaluated the psychological impacts of COVID-19 on students in the United States using 2500 survey responses from students at seven universities in late February to the middle of May 2020. Results included open-ended responses to questions concerning students' stress and mental health (Browning et al., 2021). Among racial and socio-economic groups, Non-Hispanic Asian women from lower to middle class were at the highest risk for adverse psychological impacts of COVID-19 e-learning protocol (Browning et al., 2021). Relative to student preparedness as a description of students, Xu and Jaggars (2013) suggest that preparation levels between students taking online courses and students taking traditional face-to-face courses may be different, particularly between subject areas. Synchronous modes of e-learning include students who attend lectures in real-time, remotely (AL-Ruheel, Atoom, & Alkhuzam, 2022). High-quality internet determines the quality of course delivery and tends to be less prevalent for rural students (AL-Ruheel et al., 2022). Many rural students use unreliable limited internet data plans (AL-Ruheel et al., 2022; Iglesias-Pradas et al., 2021).

Other studies found that while there were no statistically significant differences in overall performance, researchers should still consider the pandemic's impact on students' coping mechanisms to remain focused. Since COVID-19 started distance education has become normalized in preparation for sudden unexpected traumatic events that threaten the safety of the learning environment (Yekefallah, Namdar, Panahi, & Dehghankar, 2021). Lack of consideration for these cases can adversely impact the quality of education and students' accep-

tance of e-learning tools (Yekefallah et al., 2021).

Some researchers shared why students in virtual learning classes might have received different grade-based learning outcomes from students in face-to-face classes. Afzal and Crawford (2022) suggested that student participation was less than their face-to-face peers. Data collected from 285 students enrolled in eight randomly selected courses of the project management program at a university in Australia during the second half of 2020 via an online questionnaire helped researchers from their conclusion (Afzal & Crawford, 2022). The results indicated that self-motivated students will engage better with their peers (Afzal & Crawford, 2022). Researchers found a statistically significant relationship between student engagement and performance in online learning (Afzal & Crawford, 2022). Student engagement can mitigate some undesirable effects of the pandemic. Activities such as faculty engagement activities, extracurricular sports, and an approachable campus environment can give students a positive outlook on their college experience (Cole, Lennon, & Weber, 2021; Sun et al., 2021). More subjective variables such as behavior might explain other challenges, but the authors found no statistically significant relationships between age, gender, or race with learning styles of online students (Afzal & Crawford, 2022).

Sun et al. (2021) conducted a one-way ANOVA with a post hoc test to determine if a statistically significant difference existed between students' ability to readjust after returning from virtual learning to in-person learning among four different campus settings. The authors revealed that the participants significantly differed in the overall restoration experienced in the four campus settings (Sun et al., 2021). Among the four campus settings, blue space or areas including water features and green space or areas including plants and vegetation allowed students to acclimate to their learning environment (Sun et al., 2021).

Gender and prior experience with virtual learning environments contributed to some differences in students' ability to acclimate (Yekefallah et al., 2021). For instance, in one study, authors found that women preferred more tangible learning materials regardless of the course delivery method (Hargitai, Pinzaru, & Veres, 2021). Yawson and Yamoah (2021) confirmed in their study that women benefitted from course development and supportive faculty while men placed greater importance on assessment functions and independent learning factors in e-learning platforms. Prior experience with e-learning also impacted students' ability to adjust to remote learning conditions. Alsoud and Harasis (2021) conducted an online-based survey study using social media channels, student groups and forums, and e-mail. Approximately 463 questionnaires were returned out of 600 inquiries to assist researchers (Alsoud & Harasis, 2021). Researchers determined that most students spent less time studying during the pandemic than before the pandemic, and students who had no prior experience with e-learning, had limited technology or internet access, experienced greater difficulty adapting to their new environment (Alsoud & Harasis, 2021; Azlan et al., 2020).

Recently, there has been significant interest among educators on ways to

adapt to the new normal. Focused studies on students' experiences provide added value to research on policy, safety measures, and pedagogy. Among these are [Munsell, O'Malley, & Mackey \(2020\)](#) who examined the impact of COVID-19 on college students' emotional health and coping mechanisms. [Munsell et al. \(2020\)](#) posited that college students surveyed in their study struggled to stay confident and engaged in the wake of the COVID-19 pandemic. Responses to open-ended questions from students from a public four-year institution tackled psychological barriers including self-distraction, denial, disengagement, and self-blame and positive coping techniques such as humor and acceptance ([Munsell et al., 2020](#)). Disastrous anxiety levels stemming from isolation and course loads further complicated educators' abilities to accurately assess student performance ([Munsell et al., 2020](#)). Ongoing and consistent support from friends, relatives, and staff encouraged students to complete coursework ([Blaskó et al., 2022](#); [Munsell et al., 2020](#)). These active-oriented coping mechanisms of students were aligned with [Sun et al. \(2021\)](#), who explored students' abilities to cope with their learning environment. Intangible obstacles add to students' challenges adapting to virtual learning. Researchers struggle to measure these obstacles due to their subjective and personal nature. Adjusting to being away from home in an unfamiliar environment, learning time management skills, carrying more responsibilities, and reducing leisure time contribute to stress ([Mayo Clinic, 2020](#)).

The study of business ethics in higher education challenges students to consider their strongly held beliefs and proactive stances on business decision-making. [Ferrell, Harrison, Ferrell, & Hair \(2019\)](#) described business ethics as the codes, standards of conduct, compliance systems, morals, and values business leaders use to make decisions that can be judged right or wrong by customers. Understanding the subjective norms established in corporate organizational culture can help students relate beneficial decisions in their personal and professional environments. In this study, the researcher evaluated students based on their cumulative final grades in a business ethics course. Subject matter included the nature of morality, normative theory of ethics, justice and economics distribution, job discrimination, and corporate organizational culture. The business ethics course encouraged students to think critically on real-life case studies, exams, and quizzes on how their decisions impacted their job, organizations, market, and interpersonal relationships.

Some educators teaching business ethics further the constructivist approach to learning. Constructivist learning activities include 1) participating in online discussion boards about a selected topic on the Internet, 2) reading articles relating to real-world business ethics subject matter, 3) forming a meaningful relationship with an external domain expert on a selected topic and presenting the information gathered with the class, and 4) solving a real-life problem in a team ([Schreurs & Dumbraveanu, 2014](#)). Other experts agreed that instructors exercise active learning or engage students through discussions, role play, and technology integration ([Magrizos, 2020](#)). [Magrizos \(2020\)](#) found when students

combined active learning with the use of mobile devices, they achieved higher scores than students who did not use mobile devices and participated in passive learning.

Despite the influx of reporting on higher education challenges students experienced during the pandemic, limited information is available regarding whether noticeable changes occurred concerning their final grades before and during the pandemic. It is in this context that the current study was undertaken. This quantitative study investigates whether a statistically significant difference existed between college business ethics students' in-person learning experience before the COVID-19 pandemic and virtual learning experience during the COVID-19 pandemic in their final grades. Specifically, the following research questions were addressed: 1) What is the extent of challenges that students experience in a remote learning environment? 2) Is there a statistically significant difference in business ethics students' final grades meeting in-person before the COVID-19 pandemic vs. business ethics students' final grades meeting remotely during the COVID-19 pandemic?

3. Research Question and Hypotheses

Research Question:

Is there a statistically significant difference in business ethics students' final grades meeting in-person before the COVID-19 pandemic vs. business ethics students' final grades meeting remotely during the COVID-19 pandemic?

Hypotheses:

H₀: There is no statistically significant difference in final grades among students meeting in-person before the COVID-19 pandemic vs. students meeting remotely during the COVID-19 pandemic.

H_a: There is a statistically significant difference in final grades among students meeting in-person before the COVID-19 pandemic vs. students meeting remotely during the COVID-19 pandemic.

4. Conceptual Framework

The relationship between students' final grades before and during COVID-19 in this study was primarily based on Wu, Hsieh, and Wu's (2022) review of students' constructivist e-learning environment. Constructivist learning encourages educators to help learners develop their own knowledge instead of depending entirely on passive instruction (Wu et al., 2022). Learning to adapt to an environment of immense changes left no student with a full-proof plan to adjust. Ongoing challenges include self-regulation, technological literacy and competency, student isolation, technological sufficiency, and technological complexity (Rasheed et al., 2020). Students' current technological literacy and understanding during the pandemic has led them to rely on guidance from educators and support to continue. While traditional in-person learning has been normalized, the education system has yet to accept the same standards for e-learning. Stu-

dents' agency not only over their learning environment, but their ability to progress through their learning environment might indicate overall success of the education experience (Archambault, Leary, & Rice, 2022).

Given the unprecedented circumstances of the pandemic, educators hastily constructed learning materials and lectures while students prepared to adapt. To extend Wu et al.'s (2022) constructivist survey of learning acclimation and potential challenges during online classes, researchers consider educators' and students' perspectives necessary to produce modern teaching protocols. In this way, final grades provide a clearer picture for instructors whether instruction was successful. Dual learning scenarios, including technology on boarding and skill-building, challenged students to achieve both simultaneously. Some theorists suggest establishing a healthy learning environment at home free from interruptions and providing learning resources outside of the classroom such as video conferencing, case studies, and professional discipline contacts (Archambault et al., 2022). Therefore, the researcher intends to understand whether there is a statistically significant difference between business ethics students' final grades before COVID-19 restrictions and during the COVID-19 pandemic. While this study included primary quantitative data, secondary research helped the researcher explore qualitative factors for successful remote learning.

Social networks allow students to communicate, relate, and share information which supports constructive learning processes (Alismaiel, Cifuentes-Faura, & Al-Rahmi, 2022). Learning management systems often include collaborative learning assignments, interactive videos, quizzes, assessments, and real-time feedback from instructors and peers (Alismaiel et al., 2022; Wang, Zhou, & Li, 2022). Virtual social interaction can fill the void of in person networking by allowing collaboration and providing a historical record of accomplishments (Islam, Sarker, & Islam, 2022; Wang, Zhou, & Li, 2022). The highlight of social media is its ability to influence student emotional growth and engagement (Lee & Recker, 2021).

Some experts suggest embracing social media inside and outside of the classroom. Various professional networking applications allow students to network with peers and potential mentors in their field of study. Skill-building assessments, certifications, and achievement-sharing platforms can broaden students' belonging and goal-setting needs (Carlson, Halaas, & Bishoff, 2022). For instance, many recruiters consider skills attained by candidates outside of their work environment and classroom settings as valuable assets to their organizations (Wheeler, Garlick, Johnson, Shaw, & Gargano, 2022).

Close focus on student learning outcomes reflects further need to unpack student motivation in remote education. The expectation of students to readily adapt to immense pressures with little resistance hinges on the unrealistic reliability of historical standard scaffoldings (Xavier, Meneses, & Fiuza, 2022). Self-determination theory deconstructs students' motivation in two categories such as 1) autonomous motivation and 2) controlled motivation (Botnaru, Or-

vis, Langdon, Niemiec, & Landge, 2021). Autonomous motivation, synonymous with higher preference for achievement, consists of engaging in behavior due to the intrinsic rewards it brings its partakers (Botnaru et al., 2021; Hagger, Hardcastle, Chater, Mallett, & Chatzisarantis, 2014). Controlled motivation occurs when individuals participate in activities that bring them extrinsic rewards or perceived approval from others to avoid negative reactions (Hagger et al., 2014).

Beyond classroom discussions, business educators rarely expect students to admit their motivational preferences. The forms of motivation reflect individuals' preferences for engaging in tasks that affirm psychological well-being (Hagger et al., 2014). Autonomous motivation requires individuals to commit to behaviors reinforcing self-esteem, self-management, and self-efficacy (Graham & Vaughan, 2022). Autonomously motivated individuals are more likely to proactively pursue educational goals (Botnaru et al., 2021; Graham & Vaughan, 2022). First-generation college students might be motivated to make their families proud while students on athletic scholarships might fear losing their ability to receive a free or reduced education (Hsu & Chi, 2022).

5. Materials and Methods

The present study adopted a quantitative approach to address the research questions. This approach allowed the researcher to collect primary quantitative data from students before and during the pandemic learning environment and secondary data about students' overall experience. The author used a sample of 88 business ethics students, 44 per group from in-person and COVID-19 restricted learning environments. Student data was deidentified and stored securely in a locked hard drive. Conducting a one-way ANOVA and other descriptive statistics allowed the author to compare results. The author did not use any other descriptive demographic information due to the small sample size and protective precautions to keep student data private. Students' final grades were based on a variety of assignments, tests, quizzes, presentations, and class participation.

6. Participants

This study involved 88 (56 male and 32 female) students from a higher education institution in Tennessee. These participants were Accounting, Management Information Systems, Management, and Sports Management majors whose ages ranged from 18 to 60 years ($\bar{x} = 21.81$; $SD = 1.80$). The students have been engaged in distance learning for at least two terms in both synchronous and asynchronous modes. The students belonged to rural low and middle-income groups with most students having access to the minimum technological equipment (e.g., computer, laptop, or mobile device) and computer skills necessary for their participation in online classes. The primary platform used by all students included Cengage MindTap while the LMS (Learning Management System) included

Moodle to provide supplemental materials. Note all students used Microsoft Teams as their primary platform after the pandemic started because it provided the ability for educators and students to meet face-to-face.

For reference, Microsoft Teams is a proprietary business communication platform that competes with similar applications such as Google Classroom, Slack, or Zoom. The Microsoft Teams application allows users to present, collaborate, and work remotely in real-time. In one study, authors surveyed 136 university educators to determine what challenges they faced while conducting classes during the COVID-19 pandemic (Mazlan, Mohamad, Reesha, Kassim, Othman, & Kummin, 2021). Although most educators stated they were familiar with Google Classroom, 71.4% of the participants responded they were unfamiliar with Microsoft Teams (Mazlan et al., 2021). Participants in Mazlan et al.'s (2021) study emphasized that they needed help increasing digital pedagogy and technological knowledge.

Cengage MindTap is modern virtual classroom that provides instructors control crafting personalized, active learning experiences with access to interactive reading materials, case studies, videos, and assessments (Cengage Learning Inc., 2023; Taylor & Smith, 2021). The learning platform was familiar to both participant groups. All students received technology training before using Cengage MindTap to complete their business coursework.

7. Data Analysis

To address the research questions, I used both quantitative and qualitative analyses. For the quantitative analyses, I entered all the data into an excel spreadsheet. Then, I computed the mean scores (M) and standard deviations (SD) to determine the level of challenges experienced by students during online learning. The mean final grade for the in-person group was 91.3636 while the COVID-19 impacted learning group consisted of 91.5909. A standard deviation of 4.9223 resulted among both groups. **Table 1** depicts the In-Person group and COVID-19 group's final grades in the business ethics course. The In-Person group consisted of 44 students while the COVID-19 group consisted of 44 students. Each group was referred to as Treatment 1 and Treatment 2 in **Table 2**, respectively. The highest score among both groups was 95 while the lowest score was 60, based on a 100-point scale. The median score for the In-Person group was 85 where $(n + 1) \div 2 = 2.5$ while the median score for the COVID-19 group was 90 where $(n + 1) \div 2 = 2$. The mode for the In-Person group was 90 while the mode for the COVID-19 group was also 90.

Table 1 displays both groups and their final grades. Descriptive demographics among **Table 1** participants included 40 females and 48 males in both groups totaling 88 students. The In-Person group of students attended a business ethics course on campus in a physical classroom environment. The instructor had the opportunity to walk around the room and observe body language, facial expressions, and emotional responses. The COVID-19 group of students attended a

Table 1. In-person group and COVID-19 final grades.

Students	In-Person	COVID-19
S1	95	90
S2	90	95
S3	90	95
S4	95	95
S5	90	95
S6	95	90
S7	95	90
S8	95	95
S9	90	90
S10	95	90
S11	95	95
S12	95	95
S13	90	95
S14	90	90
S15	95	90
S16	95	95
S17	95	95
S18	90	95
S19	90	95
S20	90	90
S21	90	90
S22	90	90
S23	90	90
S24	90	90
S25	90	90
S26	90	90
S27	90	95
S28	90	90
S29	90	90
S30	90	90
S31	90	80
S32	80	80
S33	60	80
S34	90	90
S35	95	90

Continued

S36	95	95
S37	95	95
S38	95	95
S39	95	95
S40	95	90
S41	95	90
S42	95	95
S43	95	90
S44	95	95

business ethics class remotely without the instructor capturing group reactions to the lecture. In addition, the COVID-19 group could watch recordings of all lectures while the In-Person group did not have that option. No changes were made in the instruction or delivery of course learning materials in either group. The only difference was the location. Both groups of students consisted of athletes and non-traditional students from various socioeconomic statuses in largely rural areas. Final grades consisted of 25% from quizzes, 25% from case study analyses, and 50% from exams. Each student's final grade is reflected in the table below.

8. Results

This study investigated students' online learning experience in higher education within the context of the pandemic. Specifically, the researcher identified the extent of challenges that pandemic induced changes to course delivery methods affected students' final grades, how the COVID-19 pandemic impacted their online learning experience, and the strategies used by all educational stakeholders to reduce negative impacts. The researcher performed a one-way ANOVA test to determine whether a statistically significant difference existed between 44 students attending an in-person business ethics course and 44 students attending a remote-learning business ethics course during the COVID-19 pandemic. The results of this study indicated no statistically significant differences existed between normal in-person semesters and COVID-19 impacted semesters. This research suggests modern protocol for helping students prepare for shocks to the educational system and a clearer direction of pedagogical considerations. Overall, students performed the same or better in the COVID-19 affected semesters. **Table 2** comprises the summary of the data:

Table 3 included the results details. The F-ratio value is the ratio of two mean square values. The F-ratio equaled less than one, which indicated insignificant differences between treatments. The P-value refers to the level of marginal significance. In this case, the P-value equaled 0.785076 which indicated the researcher should accept the null hypothesis:

Table 2. Summary of data.

	Treatments					Total
	1	2	3	4	5	
N	44	44				88
Σx	4020	4030				8050
Mean	91.3636	91.5909				91.477
Σx^2	368,700	369,800				738,500
Std.Dev.	5.7429	4.0018				4.9223

Table 3. Result details.

Source	Result Details			
	SS	df	MS	
Between-treatments	1.1364	1	1.1364	$F = 0.07531$
Within-treatments	2106.8182	86	24.4979	
Error	648.8636	43	15.0899	

Note. The F -ratio value is 0.07531. The P -value is 0.785076. The result is not significant at $P < 0.05$.

9. Discussion and Conclusion

The current study explored the relationship between students' final grades in a college business ethics course across in-person and remote course deliveries. Secondary data helped the researcher examine challenges students experienced in a virtual learning environment and how the pandemic impacted their online learning experience. The findings revealed that the virtual learning challenges of students did not significantly impact their final grades in the pandemic-affected semesters. Their greatest challenge was linked to their learning environment at home while their slightest challenge was technological literacy and competency. Future studies could compare students based on more specific demographic information and include semistructured qualitative interviews.

Little distortion in final grades between In-Person and COVID-19 groups suggested three possible explanations. First, students embodied resilience in their ability to perform under the unfamiliar conditions of pandemic restrictions. Some students were away from home for the first time and had to remain in their dormitories to complete work in isolation or return home to complete their studies, remotely. Strong self-efficacy and engagement were critical to ensure active learning occurred (Zheng, Khan, & Hussain, 2020). Second, most students in both business ethics course settings grew up using technology in their studies. The ability to adapt to change might not have interrupted their

schedules as much as students who used technology sparingly to complete their coursework such as e-mail communication. Third, university faculty and staff worked tirelessly to accommodate students' needs. Allowing extra time to complete work and solid technology on boarding from faculty resulted in students feeling more comfortable in their new environment.

In conclusion, university students in post COVID-19 educational settings might be better prepared for changes in their routines when faced with unforeseen barriers to learning delivery. While this study does not represent diverse classrooms in various higher education environments, the research adds knowledge on supportive tools to sustain active learning regardless of location. Consistency in the final grade outcomes of business ethics students during the COVID-19 pandemic can give hope to future student participants initially unsure of their path toward completing their education.

10. Limitations

Limitations of this study included small sample size, lack of primary qualitative data, and the subjective nature of business ethics pedagogy. The small sample size was limited to a small SACSCOC (Southern Association of Colleges and Schools Commission on Colleges) Level III institution in Tennessee with less than 1000 students. Business ethics students enrolled in classes before and during the pandemic provided the data needed to complete the research. Since none of the participants were interviewed, primary data did not include qualitative data. The rural location of the institution also limited access to stable, high-speed internet, and several participants lacked reliable electronic devices conducive to remote learning. Semistructured interviews could have added psychological, social, and emotional context to the study. Business ethics courses often challenge students to think critically on issues facing organizational functions, environmental sustainability, and personal and professional morals.

Participants were not compared based on demographic information such as age, race, sex, or socioeconomic status. All participants experienced an interactive online learning management system, lectures, case study analyses, and presentations in business ethics. The subjective nature of business ethics eliminated the possibility of generalizable data from this study. However, this study adds to the growing body of knowledge on the COVID-19 pandemic's impact on student final grade performance by highlighting the need for sustainable learning models.

11. Future Implications

Future implications of this study suggest that researchers need to spend more time understanding the perceptions of pandemic pedagogical and learning environmental changes experienced by stakeholders. Overwhelming research suggested that the failure to implement remote education delivery on boarding early on resulted in the heightened anxiety of students and furthered inequities

(AL-Ruheel et al., 2022; Jaoua, Almurad, Elshaer, & Mohamed, 2022). Educational system leaders might seek updated guidance on how to proceed with remote learning models and consider the psychological impacts of the changes on student success indicators.

Future studies could include more colleges and universities across various rural, suburban, and urban areas. A more diverse group of students included in the research might shed light on current inequities in the remote learning framework. Additionally, students should have more clarity on their remote learning environment and whether it meets their current needs. Educators should be provided with the necessary support, feedback, and tools to prepare modern pedagogy.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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