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Understanding factors that influence attitude and preference for hybrid course formats

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Abstract

Over the last decade, online learning has grown to become an important part of higher education. However, hybrid formats that blend online learning with direct face-to-face contact with instructors have emerged as a popular course delivery format. These hybrids format aims to take full advantages of the benefits of both online and face-to-face course offerings. This study examines the factors that influence college students' attitudes toward hybrid courses. Data from 300 students at a college of business is used to examine relationships between their perceptions of hybrid course formats and their attitudes and preference for such formats. Specifically, perceptions of flexibility afforded by hybrid formats, improvement in attendance through such formats, expectations of GPA in online formats, requirement to participate in online web conferencing through technologies like Zoom, and availability of course material online were analyzed. The results show that hybrid formats are preferable because they allow students to have flexible schedules, likely improve their attendance, and have online course material for anytime access. Expectations of earning a higher GPA in online environments and required participation were not found to be significant. There was no significant difference between demographics based on gender or age for hybrid formats.

Key words: *Hybrid course formats, online, face-to-face, attitude, preference.*

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Introduction

Recent trends in higher education indicate an increased emphasis on alternative content delivery methods that may be used to either enhance or replace the traditional lecture-based pedagogy found in many college and university classrooms. As classrooms change to provide course content, homework, and assessment anywhere at any time, the perception of online learning varies by audience; the public at large has a less optimistic view of online courses than college presidents do (Taylor, Parker, Lenhart, & Patten, 2011). This perception exists with the knowledge that technology now provides students and instructors with tools to manipulate data into information and then into knowledge more quickly and from more diverse sources than ever before (Mundie & Hooper, 2014). However, the integration of technology into existing pedagogy requires careful thought to the redesign of classroom instruction. **Advocates of technology use note that technology tools should “serve as intellectual partners during activities requiring problem solving or critical thinking” (Ertmer & Ottenbreit-Leftwich, 2013, 176).** As online learning requires the use of technology to access and interact with instructors and materials, the design and implementation of online instruction brings new and more complex issues to light.

The shift toward online instruction impacts the instructor as well as the students; as more institutions include online instructional components or courses, more faculty are required to teach in an online format with various levels of professional development in the mode of instruction (Comas-Quinn, 2011). The rise of networking, local area networks, personal computers, and protocols such as TCP/IP that allowed computers and users to communicate through these networks led to the appearance of web-based education and training by the early 1990s (Leiner et al., 2012). The first postsecondary online course that made use of the World Wide Web was in place by 1994; however, **these “online” courses were far different from those offered by today’s institutions of higher learning in terms of content, interaction, depth, and quality (Hill, 2012).** From 1995 to the present, online learning developed into what is now known as eLearning, combining multimedia with Internet connectivity through learning management systems to deliver courses in an online environment (Keengwe & Kidd, 2010). The choice of course delivery methods also determines the materials that may be used in the classroom; while traditional face-to-face delivery methods rely heavily on synchronous interaction between instructor and student, hybrid and online courses must make use of asynchronous communication for significant segments of the course. The increased use of technology in the asynchronous format has led to many studies focused on student satisfaction (Castle & McGuire, 2010; Draus, Curran, & Trempus, 2014; Dziuban & Moskal, 2011; Baker & Unni, 2018), but fewer studies that outline the differences in final outcomes such as grades and completion in different formats of the same course. **Jaggars (2014) found that undergraduate students took “easy” courses online and “hard” courses on campus.**

Kelly (2019) in a recent survey, found that nearly nine in ten faculty members (87%) at colleges and universities across the USA indicated that they are using either fully online or a mix of online and face-to-face instruction in their courses. That leaves just 13% who are still teaching exclusively face-to-face. The blended model was the most common among respondents, at 76%, up from 73% in 2017. A growing number of universities are adopting hybrid models that combine the traditional lecture with online instruction, creating flexible educational models that are consistent with the needs of the new society. The current COVID-19 pandemic will alter the future of teaching and learning. This pandemic has forced institutions of higher education to explore different, effective teaching delivery options. While some faculty have already adopted online teaching, other instructors are having difficulty making the jump, especially on such short notice. This study examines how **students’** perceptions of hybrid formats shape their attitudes toward hybrid courses and preferences for this course delivery format.

Literature Review

Knowles et al., (2011) theory of adult learning, provided the theoretical foundation for examining student satisfaction in traditional, online, and hybrid courses. In computer-based instruction, the adult learner characteristics of self-direction and self-motivation detailed in Knowles' theory are critical to successful course completion. However, online learning theory as proposed by Anderson (2008), suggests that while **adult learning theories such as Knowles' theory continue to apply to online learning**, technology introduces new challenges such as online community building and virtual interaction in the absence of physical social cues. Palloff and Pratt went so far as to **state that instructors must abdicate "our tried and true techniques that may have served us well in the face-to-face classroom in favor of experimentation with new technologies and assumptions"** (Palloff & Pratt, 2000, 3). Salmon (2011) postulated creating a sense of community online is vastly different from managing group dynamics in the face-to-face classroom. To address these challenges, Knowles' theory emphasized the importance of aligning several factors including self-direction to create successful computer-based instruction. This theory of online learning focusing on learner interactions with other learners, the instructor, and the content of the course, suggested successful online learning depended on at least one of these types of interactions **operating at a high level. In Salmon's theory, learning-centered e-moderators who emphasized collaborative learning and community building replaced content-centered instructors in the online classroom.**

Online and hybrid education continues to be a valuable option for students in higher education. Both learning models provide opportunities for students to have more autonomy over when and where they learn. According to the National Center for Education Statistics (NCES, 2018), in 2017, approximately 32% of undergraduate students at degree-granting postsecondary institutions enrolled in a distance education course. Moreover, 13% of students were enrolled exclusively in only distance education courses. The NCES data shows that undergraduate students are engaged in distance education. From blended and hybrid models, to fully online courses, many students are shifting from traditional face-to-face instruction to distance learning alternatives. Some educational institutions are making the shift from face-to-face to online learning by choice and for others it is a requirement. In March of 2020, the World Health Organization (WHO) named novel Coronavirus 2019 (COVID-19) a world health pandemic (WHO, n.d., para. 1). In an effort to slow the spread of the virus, colleges and universities across the country switched from traditional face-to-face settings, to completely online course offerings (Baker et al., 2020). In another effort to reduce the transmission of COVID-19, the Centers for Disease Control (CDC) suggested social distancing and limiting gatherings to ten or less people. These guidelines impact K-12 schools, college campuses, businesses and all events deemed unessential. Local and state governments have imposed **strict "shelter at home" rules to curb virus outbreaks** (Ortiz, 2020). Many K-12 and college students who have access to the Internet and technological tools (e.g., computer, tablet, etc.) are now engaged in online learning. Understanding student perceptions of hybrid and online learning prior to the pandemic and after it has ceased will help inform and shape the future of education.

The physical separation of learners from other learners and teachers is rooted in the theory of transactional distance. Surpassing a simple geographic separation, **transactional distance encompasses the "understanding and perceptions, caused in part by the geographic distance"** (Moore, 1991, 2). This includes the distance and disconnect between learners and instructors. Although the disconnect can occur between students and teachers in any teaching and learning setting, distance education is particularly susceptible because of the physical separation. Hence, distance education can include feelings of isolation, where students feel disconnected and distant (Moore & Kearsly, 2005). Understanding how to reduce the separation and ensure connected learners is a goal of distance learning.

In distance learning environments, students appear to thrive when they feel connected to their instructor. In their study exploring teacher and student perceptions **of online learning Kim and Freberg's (2018) findings reveal that students find it helpful** when faculty are engaged and intentional in connecting with students. Communication and the development of relationships are important considerations in online learning (Kim & Freberg, 2018). However, as faculty develops learning activities to connect students to each other, their course materials and the instructor; the feelings of isolation and distance are minimized. Hybrid learning has emerged as faculty aim to take full advantage of the benefits of online and face-to-face course offerings. According to Kurthen and Smith (2006), hybrid learning occurs when between 40% and 80% of the instructional activities are online. The online interaction replaces the face-to-face interaction in the hybrid course. Their findings revealed that students in hybrid learning settings were **successful in the online component of their work because of "Norm Internalization" (p. 241). The hybrid course replaced over 70% of the face-to-face meetings and students began to overcome any resistance and internalize the norms of the online community.** As online learning became more normalized, students began to succeed in the hybrid learning environment.

Norm internalization emerged as a key benefit to students' success in hybrid courses. Other factors may also contribute to student success and satisfaction in hybrid learning. In a study examining civilian and military continuing education, Goerke (2018), found no significant difference in learner satisfaction in traditional face-to-face, online or hybrid versions of the same course. Goerke posits real-world relevance as a major component of student satisfaction. Additionally, the need for instructor engagement and interaction were recurring themes. These findings support previous research suggesting that teacher engagement is a key factor to student satisfaction in online and hybrid courses. More research is needed to understand student perceptions of engagement and learning in hybrid and online settings. In an effort to provide opportunities for communication and engaged learning, many online teachers create group or collaborative learning activities for students. Group work can be beneficial to the learning process (Johnson, et. al., 2008). Yet, it must be done effectively or it will frustrate students. Berry (2018) identified non-traditional, online students as resistant to groupwork because of the frustration experienced when group members did not communicate and respond promptly or if they complete their assigned work at the last minute. Ideally, groupwork will engage students and help them feel more connected. However, the interdependence required for effective groupwork can produce frustration online. In online and hybrid settings, instructors must design purposeful opportunities for student engagement.

Despite research by Berry (2018) suggesting that students do not deem online collaborative learning as ideal, working independently in an online course may have benefits and detriments. In their study comparing traditional face to face courses to online courses, Hass and Mathew (2018) revealed that students found online learning to be more flexible than traditional face to face courses. However, students also felt that the lack of face-to-face interaction was a disadvantage. In the online environment, students perceived learning to be primarily their own responsibility. Essentially, in the online setting, students felt they needed to teach themselves. The study found that students did not have favourable attitudes and perceptions of online learning (p. 237). Although asynchronous online learning provides flexibility and gives students more autonomy in choosing when and where they will learn, there are other barriers such as feeling connected to faculty, the need to be internally motivated and self-directed, that must be overcome.

Hybrid learning presents the unique opportunity to glean the best practices of both face-to-face and online instructional design. Communication and intentional engagement are identified as key characteristics to successful online learning. Moreover, online students express the need to feel connected to their teachers. Student learning

and success is the **goal of instruction. More research is needed to understand students'** attitudes regarding traditional face to face, hybrid, and online learning environments. Marquis and Ghosh (2017) in a study of 221 business students at Tennessee State University showed that with both the mix between day and night sections of classes and when the gender mix were approximately equal, the students showed a clear preference for the hybrid course design. Wai and Seng (2014) with a case study design investigated 120 business school students enrolled at a private university. A set of survey questionnaires was administered to examine the effectiveness and efficiency of blended learning using path analysis. The empirical results confirm that blended learning tools do enhance students' **learning experiences and learning outcomes.** Baker and Unni (2018) in a study with undergraduate students examined and compared hospitality and tourism majors at Midwestern universities in the USA with similar students attending universities in Asia. The sample consisted of 356 students with approximately 66% from USA and 34% from Asia. Analysis of the means revealed that there was no significant difference in learning preference and that both USA and Asian students were very satisfied with both online and face-to-face modes of instruction.

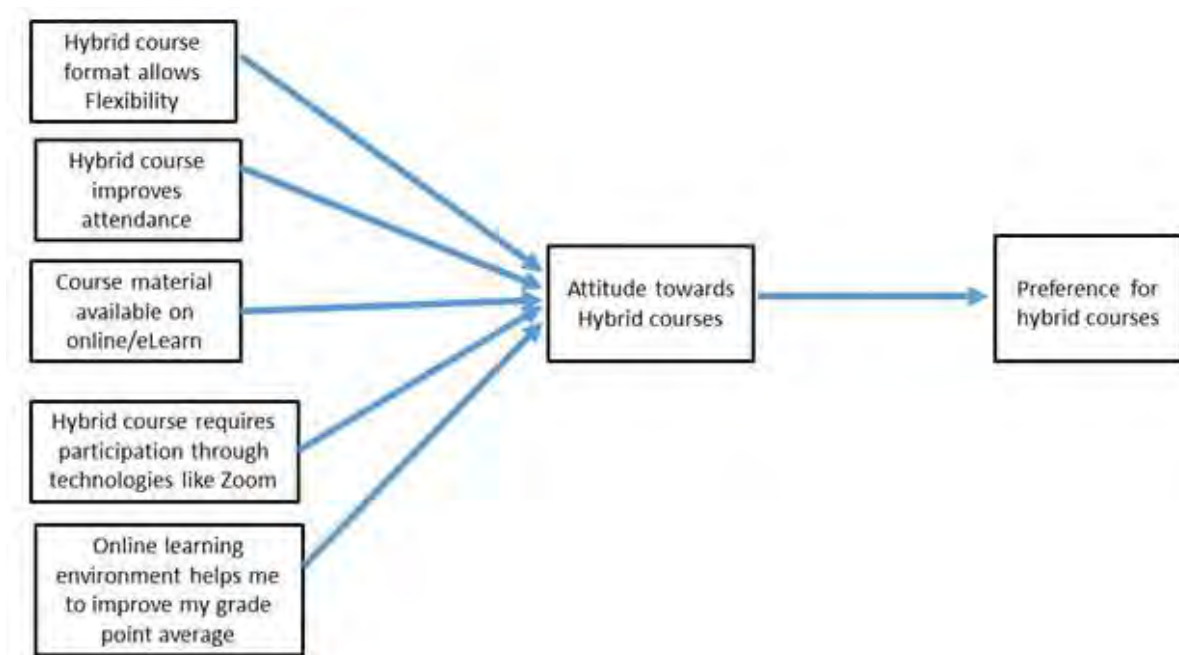
Instructional design was identified by Artino (2008) as the strongest contributor to overall student satisfaction with online courses; he also found that students were more satisfied with online learning tasks if they were perceived to be interesting, useful, and important. In another study by Artino (2009), he suggested that a higher level of online instructor support was necessary to overcome low student critical thinking skills and student procrastination. A number of researchers have conducted comparative research about student satisfaction in traditional, hybrid, and online classroom settings. Results from 20 comparative studies were mixed. Only three studies conducted by Bayliss and Warden (2011), DiRienzo and Lilly (2014) and York (2008), found no significant differences in student perceptions about the efficacy of traditional, online, and hybrid courses (Bayliss & Warden, 2011). The remainder of the comparative studies reported both favourable and unfavourable perceptions of hybrid and online courses when compared with those offered face-to-face.

In the area of course management, flexibility and convenience of courses offered in the hybrid and online instructional formats were consistently identified in recent comparative studies as a contributor to favourable student perceptions. Modular designs enabled students to view course information on demand and multiple times to reinforce important concepts in the content areas covered. Kim et al. (2008) found that business professionals, police officers, and undergraduate students identified flexibility and convenience as the things they liked most about hybrid and online education. An online course was also shown to enable students hindered by physical constraints to take a hybrid course (Sherrill and Truong, 2010).

Specifically, this study intends to test the following null-hypotheses:

- H01: Perceived flexibility of hybrid course format will not be associated with favourable attitudes toward this format.
- H02: Perceived improvement in attendance by taking hybrid course format will not be associated with favourable attitudes toward this format.
- H03: Availability of course material on online platforms will not be associated with favourable attitudes toward hybrid format.
- H04: Requirement of online participation through web conferencing technology will not be associated with favourable attitudes toward hybrid format.
- H05: Expectation of improvement in grade point average in online environments will not be positively associated with favourable attitudes toward hybrid format.
- H06: Favourable attitudes toward hybrid format will not be associated with preference for hybrid format.

Figure 1:
Proposed Model



Method

The purpose of this study is to collect insights into students' perceptions of hybrid and traditional face to face delivery methods in relation to business courses. Then, **the authors seek to explore students' level of satisfaction with the learning instructional modes.** The approach for this study was to replicate prior research procedures and use the survey instrument developed by Fortune, Shifflett, and Sibley (2006) that measured learning perceptions of students enrolled in business communication courses in two different learning environments; online and face-to-face. Data for this study was collected from undergraduate student survey questionnaire responses from business majors enrolled in courses utilizing different learning formats; online, hybrid and face-to-face in the College of Business at Tennessee State University conducted in the 2019-2020 school year.

The survey instrument was developed by modifying one used by Fortune, Shifflett, and Sibley (2006) which measured learning perceptions of online vs. face-to-face instruction, the modification was mainly the inclusion of a hybrid section on the questionnaire. The survey instrument consisted of two sections. Section I had 9 demographic questions, section II with 28 statements with a five-point Likert-scale measurement that ranged from 1 (strongly disagree) to 5 (strongly agree). Section II assessed perceptions and attitudes about fully online and hybrid, and comparison of online learning environments to traditional learning environments on dimensions such as ease of communication with instructor and other students, ability to learn course concepts, and level of satisfaction. The data was analyzed using SPSS version 23.

Results and Analysis

Demographic profile

The data collection yielded 300 usable surveys. The sample was predominantly African American (about 76%) and male (59%). More than half of the respondents were

under 21 years old. About 88% of the sample consisted of upper division students (juniors and seniors). Most of the respondents had taken a completely online class (81%) and a hybrid format that combined online with face-to-face sessions (77%). The details of the sample are summarized in Table 1.

Table 1:
Sample Demographic Characteristics (N= 300)

Gender			Major		
	Male	178	Supply Chain Management		55
	Female	122	Marketing		51
Age			General Business		41
	18-21 years	161	Management		35
	22-25 years	86	Information Systems		32
	26-30 years	24	Management		22
	31-40 years	18	Accounting		18
	Over 40 years	9	Hospitality & Tourism		17
Class/Year			Management		17
	Freshman	3	Human Resources Management		16
	Sophomore	33	Finance		16
	Junior	110	Economics		3
	Senior	154	Others		10
GPA			Race		
	3.6 and above	79	African-American or Black		230
	3.2 – 3.5	91	Caucasian/White		40
	2.8 – 3.1	96	Others		30
	Under 2.8	34	Taken a completely online		81%
			class		
			Taken a hybrid class		77%

Analysis

A one-way ANOVA analysis was carried out to compare effects of age and gender on attitude towards hybrid format and preference for hybrid format. There were no significant differences of gender (males versus females) or age (older versus younger respondents) on attitudes and preferences for hybrid format. Similar one-way ANOVA analyses were done with following factors: previously taken online classes (those with experience of having taken online classes previously versus those who had not taken online classes previously) and GPA (those with GPA higher than 3.2 versus those with GPA lower than 3.2). No significant differences (at $p < .05$) were observed.

Significantly high correlations (Pearson correlation coefficient $> .70$, $p < .0001$) were observed among the three items that assessed perceived flexibility. These items were **“hybrid course format allows good flexibility for students;”** **“hybrid course format would fit my schedule better;”** and **“hybrid format allows me to go through the course material at my own pace.”** These items were then combined to create a single variable for perceived flexibility of hybrid formats (Cronbach alpha = 0.89).

Hypotheses testing

A linear regression with attitude toward hybrid courses as the dependent variable was run. The independent variables were (a) perceived flexibility of hybrid course format, (b) perceived improvement in attendance through hybrid course format, (c) availability of course material like syllabus and PowerPoint slides on online platforms, (d) requirement of course participation though web-based video conferencing

technologies like Zoom in hybrid classes, and (e) expectation that online learning would improve grade point average. The regression model was significant with an adjusted R-square of .696 ($F_{5, 279} = 131.16, p < .001$). The standardized coefficients are shown in Table 2.

Table 2:
Regression results

Items	Standardized coefficient (β)	t value	Significance $p <$
Hybrid course format allows flexibility	.57	9.39	.0001
Hybrid course improves attendance	.16	3.24	.001
Course material available on online/eLearn	1.17	3.48	.001
Hybrid course requires participation through technologies like Zoom	-.001	-.019	n.s.
Online learning environment helps me to improve my grade point average	.007	.198	n.s.

Dependent variable: attitude toward hybrid courses

The results, presented in Table 2, show that perception of flexibility allowed in hybrid course formats has a significant positive effect on attitude towards hybrid courses ($\beta = .57, p < .0001$). As this result is statistically significant null-hypothesis H01 is rejected. Similarly, there is a strong significant positive effect of perception that hybrid course improves attendance on attitude towards hybrid courses ($\beta = .16, p < .001$). Therefore, null-hypothesis H02 is rejected. The third variable with a significant effect was perception that course material would be available on online platforms like eLearn. This had the large effect on attitude towards hybrid formats ($\beta = 1.17, p < .001$). Therefore, null-hypothesis H03 is also rejected. The model revealed no significant effect of hybrid courses requiring participation on online technologies like Zoom (Table 2.). The expectation that grade point average would improve in online environments also had no significant effect on attitude towards hybrid courses. Consequently, the null-hypothesis H04 and H05 are accepted as the results were not statistically significant.

Effect of attitude toward hybrid format on preference

A simple linear regression with preference for hybrid courses as the dependent variable and attitude toward hybrid courses as independent variable was run. The regression model was significant with an adjusted R-squared value of .39 ($F_{1, 284} = 181.79, p < .001$). Attitude towards hybrid courses had a significant positive effect on preference for hybrid courses (standardized $\beta = .63, p < .001$). As this result is statistically significant null-hypothesis H06 is rejected. These results support the proposed model in Figure 1. of preference for hybrid format being shaped by attitude toward hybrid format. The model for predictors of attitude toward hybrid format explained almost 70% of the variance. The second regression model of the relationship between attitude and preference of hybrid format was also supported and 39% of the variance was explained. Understanding the effect on preference is important because it is the precursor to choice.

Discussion and Conclusion

Throughout the history of formal education there has always been debate about how to best provide course content to students. As students progressed through the educational system, pedagogy focused on the teacher as the keeper of knowledge and the students as recipients of this knowledge through lecture, drill and practice, and recitation. As early as ancient Greece students were taught in elementary, secondary, and postsecondary institutions that focused on the Trivium of grammar, logic, and rhetoric and the Quadrivium of arithmetic, geometry, music, and cosmology (Martineau, 2011). While content has progressed with time, the pedagogy has remained much the same until the 20th century, when technological advances impacted both the design and delivery of courses. Studies conducted on student satisfaction ratings indicate that students for the most part, find blended learning to be as effective as traditional course delivery methods in relation to effectiveness components such as completion, graduation, grades, and withdrawals (Nowell, 2011). Faculty have a different view of blended learning and have seen it as complex, requiring more planning, lacking communication, and taking more time to complete (Ocak, 2011).

Colleges have transitioned courses from traditional delivery methods to hybrid and online delivery methods with varying levels of involvement and commitment from faculty teaching these courses. As online learning involves the use of technology as the communication medium, it requires a new way of approaching the process of teaching **from both the instructor's and the student's point of view. As an element of distance learning**, online learning follows the legacy of correspondence courses, television, and video streaming in making use of currently available technology to deliver content to students in a remote location (Means, Toyama, Murphy, Bakia, & Jones, 2010). **The present study's findings supported earlier studies concerning students' preference for the hybrid method of instruction** (DiRienzo & Lilly, 2014; Marquis & Ghosh, 2017; Sherrill & Khoa Truong, 2010).

This research showed undergraduate business students preferred the hybrid course delivery method over face-to-face delivery method. Evaluation of hybrid format were did not significantly vary based on age, gender, class, GPA, or previous exposure to online-only class format. Students in our study support previous research validation that learning activities among teachers and students provide a possibility to generate positive communications and interactions with each other. Hybrid formats are preferred because they combine the benefits of flexibility and availability of course materials in online settings with a format that still requires students to have face-to-face interactions with instructors and others students. Presumably, the flexibility in a hybrid format may **also be influencing students' perception of being able to improve their attendance in such formats, and since many professors include students' attendance and participation in the final grade it encourages students to be engaged.**

There are many different terms associated with digital learning, such as distance, blended, hybrid, asynchronous, synchronous, web-assisted, and massive open online courses (MOOCs). Some of these terms relate to modality, which describes the how and where of learning. Other terms describe the amount of the course taught through a given modality. The main focus of this paper was on the hybrid format. Students develop competencies that are unique and critical to online learning. These are flexible learning and teaching interactions, independent learning proficiency and strategies, peer collaboration through online discussions and internet-based and computer-based abilities. Those competences are the momentum of a successful online learning process. Essentially, online learning provides flexible schedules and less constraint of places for students to acquire knowledge as compared to traditional face-to-face classroom settings (Hung et al., 2010). Students appreciate the flexibility (Marquis & Ghosh, 2017; Kim et al., 2005; Tabor, 2007) and convenience of online learning and teaching interventions (Song et al., 2004). The results of our study support the idea of flexibility

in the hybrid course format associated with favorable attitudes to this format as presented in Table 3.

Placing the bulk of the learning in the hands of the students mandates tighter constraints on course content and format. Content delivered in an online course needs to be complete, relevant, accurate and must include all the information necessary for students to successfully complete course requirements (Siragusa et. al., 2007). Brown and Voltz (2005) maintain that “**educational materials that have been effectively designed will facilitate the achievement of desired learning outcomes for students**” (p.1.). The authors cite six design elements that should be present in the collection of resource materials provided to students in an online course. These elements mandate that learning resources include an activity or task that students must perform, a scenario or story that motivates a student to perform, opportunities for feedback, an appropriate delivery medium, consideration of the context of the learning environment, and attention to the influence each resource will have on student learning. Applying these six design elements generates instructional materials that contribute to the totality of the learning experience. The results of our study support the idea of the availability of course material and other resources online that can be accessed by students anytime as seen in Table 3.

It is crucial for educators to encourage students to participate in an online setting because student participation is a fundamental element in creating successful online classes. Interactions among students and between students and teachers are of **significance in developing students’ academic and social competence (Richardson and Swan, 2003)**. Online learning gives different types of student opportunities to express their thoughts, confusion and concerns about the current learning experience, which is different from the traditional classroom setting where students have limited time and chances to raise questions and participate (Kim et al., 2005). As students participate in a meaningful way, they will expand their knowledge of the content and enhance their social communicating strategies through writing. The results of our study did not support the idea of participation using zoom as seen in Table 3. This might be due to the fact that hybrid is not a fully online course. The requirement participation via Zoom may also be adversely affecting flexibility that students like to have in their schedules.

In most online and hybrid courses, students have access to a vast array of instructional materials. In a previous study, the authors found that students with the highest access rates were also the highest achievers (Murray, Pérez, Geist, & Hedrick, 2012). These findings parallel what other researchers have found. Crampton, Ragusa, and Cavanagh (2012) observed that students who accessed the most content in terms of diversity and percentage of available resources achieved a higher grade. However, research has also shown that students prioritize the resources they access. Stewart, Stott, and Nuttall (2011) found that students accessed archived resources on-demand to help with assignments, not on a weekly basis to supplement lectures. On a similar premise, others found that students tend to access only materials that are directly tied to earning a grade (Murray et al., 2012). Tabor (2007) received student feedback suggesting that online topics would have merited additional study time if quizzes had been associated with them. Gonzales et al. (2018) in their study found that students of colour and students from low-income families rely on older devices that are more likely to break down. Problems with technology cause stress and affect academic performance at a time when students are routinely expected to use computers or other electronic devices for day-to-day class work, assignments and online readings. The results of our study did not support the idea that students expected to improve their GPA as a result of the hybrid format as seen in Table 3.

Shee and Wang (2008) and Herbert (2006) found that the quality of online instruction depends on student satisfaction and learner interface. Previous studies confirm that students’ **value** certain characteristics of online learning. For example,

students appreciate the flexibility (Kim et al., 2005) and convenience of online learning and teaching interventions (Song et al., 2004). Students gain autonomy of their own learning process, which they can use to obtain diverse individual goals that align with the current academic proficiency and expectations. Students can also decide how much they should learn about particular content and how much they should explore certain aspects. The results of our study support the idea that students have favorable attitudes and a preference for the hybrid format as seen in Table 3.

Table 3:
Results of null-hypotheses testing

Null-Hypotheses	Results
H01: Perceived flexibility of hybrid course format will not be associated with favourable attitudes toward this format.	rejected
H02: Perceived improvement in attendance by taking hybrid course format will not be associated with favourable attitudes toward this format.	rejected
H03: Availability of course material on online platforms will not be associated with favourable attitudes toward hybrid format.	rejected
H04: Requirement of online participation through technologies like Zoom will not be associated with favourable attitudes toward hybrid format.	accepted
H05: Expectation of improvement in grade point average in online environments will not be positively associated with favourable attitudes toward hybrid format.	accepted
H06: Favourable attitudes toward hybrid format will not be associated with preference for hybrid format.	rejected

Attitude towards the hybrid format was influenced most by the availability of course materials at any time in hybrid formats. Presumably, the reference point for students is the traditional format, where students have to come to class and get the material. The other important influence on favourable attitude toward hybrid format was the flexibility that students perceived in hybrid formats. This included better fit with their schedule and being able to work at **their own pace**. **Students' perception that their attendance would improve in hybrid format** also is associated with favourable attitudes towards the hybrid format.

The preferred hybrid mode of instruction provides more **flexibility for today's** students with multiple competing commitments in their lives. For universities the takeaway is to provide more courses using the hybrid model to better meet the needs of current students and to attract new **students**. **In today's environment our students need more flexibility to integrate work, home, and schooling**. To maintain student enrolment **today's universities have** to adjust to the needs of our current population. As colleges move to online-only classes for instruction, additional concerns arise about the quality of educational instruction that can be provided remotely. Previous studies have warned that student performance, particularly for students who are already academically struggling, can seriously suffer in online courses. Other research has found that up to 20% of college students have issues accessing effective technology including working laptops and reliable high-speed internet (Gonzales et al., 2018). Smartphones and laptops seem ubiquitous at U.S. universities, but there is still a "digital divide," with some students less likely than others to have consistent access to reliable technology (Gonzales et al., 2018). Nearly all of the students had laptops and smartphones, but many had problems maintaining access to effective technology. They had to type papers on old laptops or tablets that didn't work consistently. Their devices wouldn't hold a charge. They lived in off-campus apartments without reliable internet access. They ran out of cell phone data and couldn't afford to add minutes.

These are some of the challenges that have to be addressed by universities forced into the online learning environment by coronavirus. These issues with maintaining access to technology **will be associated with students'** academic performance. Faculty now must embrace the technology and hopefully teaching and learning will be enhanced. Online conferencing services like Zoom, Adobe Connect and BlueJeans, **allow participants to "raise hands," share screens, message the host and** other attendees, and break off into smaller discussion groups. Similarly, Learning Management Systems such as Blackboard, Canvas, and Brightspace D2L provide opportunities for collaboration, teaching, learning and assessment. Universities shifted the whole student body to online learning during the COVID-19 campus closure. Universities have begun their recruiting of the class of 2024 through online means, including virtual tours, web conference advising sessions and other digital outreach. Given the current situation, no doubt courses will be taught online for a while until campus reopens. A direct result of the coronavirus pandemic would be an increased in universities offering of both fully online and hybrid courses. Faculty should welcome the opportunity to learn how to use the technology even if they hope classes will resume in person, as normal, soon.

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