A COMPARISON OF BUSINESS STUDENT PERCEPTIONS IN KAZAKHSTAN AND THE UNITED STATES REGARDING WAYS TO ENHANCE THE ONLINE LEARNING PROCESS

Randy G. Colvin
Texas A&M University-Kingsville, Texas, USA

Natalya Delcoure
Texas A&M University-Kingsville, Texas, USA

Thomas M. Krueger
Texas A&M University-Kingsville, Texas, USA

Harmeet Singh
Texas A&M University-Kingsville, Texas, USA

ABSTRACT

The unanticipated COVID-19 pandemic renewed interest in the success of various pedagogic practices across populations to determine the universality of their importance. This article contrasts the findings of research conducted among Kazakhstan business students, and recently reported in *the Journal Eastern European and Central Asian Research,* to a population of business students at Texas A&M University-Kingsville. Our empirical sample survey of 112 undergraduate students reveals a.) a greater satisfaction with online education, b.) the potential for a longer attention span, c.) agreement on techniques to improve pedagogy, and d.) better perceived online experiences versus Kazakhstani findings. This report shares additional actionable suggestions for lessening the instances of low online involvement, as well as suggestions for improving asynchronous online education, which is again found to be preferred to a synchronous modality. Insights provided by students from a different culture and hemisphere enhance understanding of student perceptions and ways to improve the online learning experience.

Keywords: higher education; online education; asynchronous learning; Kazakhstan; United States; pedagogy; COVID-19 pandemic

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INTRODUCTION

A study and prescription for enhancing online education in the wake of the COVID-19 pandemic was recently published in the *Journal of Eastern European and Central Asian Research* (Kazybayeva et al., 2022). Through an examination of U.S. business student opinions regarding ways to improve online education, this

study extends the Kazybayeva et al. discussion which was based on a survey of Kazakhstan students. To the extent possible, this research parallels that study's methodology using quantitative survey data in an effort to determine the robustness of their findings across cultures and hemispheres. Most prior research, including the Kazybayeva study, tend to examine online education in only one setting, limiting the findings' generalizability. The few multinational studies tend to examine teacher preparation (i.e., Scherer et al., 2021), compare developed and undeveloped nations' online education offerings (i.e., Qazi et al., 2020), and assess variations in academic stress across nations (Chandra, 2020). Regardless of the approach, little focus is on differences across nations regarding the ability of online education to address students' needs in the face of the COVID-19 pandemic and in preparation for future crises that may result in the closure of institutions of higher education. A current assessment of this void is important since it has been almost thirty years since Rosen and Weil (1995) noted differences in how students learn online across national boundaries.

The literature review focuses on the move to online education at the intersection of COVID-19 pandemic and post-secondary education. The methodology contrasts characteristics of the two samples. Comparative satisfaction with online education, attention spans, expectations and experiences, suggestions to increase engagement, and suggestions for improving online education are reported in the findings section. The conclusion summarizes the findings and makes suggestions for future research that would further expand upon our understanding of the robustness of these findings.

LITERATURE REVIEW

The COVID-19 coronavirus caused a widespread disruption in post-secondary education in spring 2020. Operating individually and in concert, university administrators across the world closed schools. By March 2020 850 million students worldwide, or about half the global student population, were barred from their university grounds (StudyInternational, 2020). Such measures were necessary as global cases during 2020 reached 83,832,334 and there were 1,824,590 deaths (AJMC, 2021). As of August 9, 2022, over the prior 14-day period there had been 13.48 deaths per 1,000,000 residents in Eastern Europe, led by Hungary. Meanwhile, there were 320.25 new cases per 100,000 residents in Eastern Europe, with a high of 588.73 per 100,000 residents in Romania(European Centre for Disease Prevention and Control, 2022). The continued COVID-19 pandemic, plus other worldwide concerns such as monkeypox (Murrey, 2022), make it critical to fully investigate means to offer post-secondary education in a remote fashion.

In a related study during the COVID-19 pandemic, Barber (2020) found no difference in students' perceived learning level and satisfaction with online learning between students in South Korea and India. His study found that interaction in the classroom, student motivation, course structure, instructor knowledge, and facilitation efforts positively influenced students' perceived learning outcomes and student satisfaction. The current study adds a variety of other key pedagogic variables to the analysis, focusing on business students, and contrasts countries in different hemispheres.

The countries in Eastern Europe and Central Asia share a semi-peripheral economic position compared to the European Economic Area (Gawlicz & Starnawski, 2018. p. 388). Lesser economic conditions have been accompanied by governmental expenditures on education significantly below the Organization for Economic Co-operation and Development (OECD) average (Gawlicz & Starnawski, 2018. p. 399). Goldbach and Hamza-Lup (2017) reported on the rapid expansion in online learning technology prior to the pandemic, especially in Romania. However, Eastern Europe and Central Asia started the move to online university education from a long-term disadvantage.

A cross-region analysis is provided by Guncaga et al. (2022), who surveyed students at the University of Ostrava in the Czech Republic, Comenius University in Slovakia, and Bratislava and Al-Farabi Kazakh National University in Kazakhstan. The authors report that students had almost no previous experience with online learning prior to the COVID-19 pandemic. In all of three countries, university leadership quickly organized training courses for faculty, who soon afterwards began using the Zoom and MS Teams platforms. These authors found that students who lived far from urban areas experienced problems with the Internet. Students in rural

areas of Kazakhstan were not ready for such a rapid transition to online learning and the large flow of users of Internet resources. Concerns about mental wellbeing arising from isolation in Semey Medical University locations in Kazakhstan and Japan, led Inoue et al. (2020) to call for detailed analysis of educational approaches that allow students to continue learning in an effective and efficient manner when using an online modality.

In response and out of concern for their students, Kazybayeva et al. (2022) conducted a survey of 160 business students at Almaty Management University aimed at revealing components of successful online pedagogy. The average online education satisfaction index score was 52.0 percent, with 11 percent being very satisfied with their experience and 9 percent being extremely dissatisfied. Using Schmitt's (1999) sensory impact model as a framework, Kazybayeva et al. (2022) found that active student participation, consistent information submission, ethical instructor behavior, and many other factors led to increased student engagement. Aspects of this study will be discussed below as the current study compares the findings of Kazybayeva et al. (2022) with those in the United States.

Given the widespread impact of the COVID-19 pandemic, it is not surprising that there has been a surge in pandemic-related research in both the business world and academic realm. One consistency regardless of the field is the focus on the response to COVID-19 in one nation. Examples include, Kristanti et al.'s (2022) study of portfolio management in Indonesia, Le and Nguyen's (2022) study of corporate risk taking in Vietnam, and Papikova and Papik's (2022) study of Slovak's small and medium-sized enterprises' profitability. Studies of the Kazakhstani education are plentiful, but tend to focus on differences between education policy and reality (Kokayev et al., 2021), addressing the needs of Kazakhstan's special education students (Gabdrakhmanova et al. 2020), and challenges related to the existence of three languages in Kazakhstani schools: Kazakh, Russian, and English (Kuzembayeva et al., 2022) and focus on the K-12 levels. The only cross-border analysis including Kazahkstani universities are the those of Inoue et al. (2020) and Guncaga et al. (2022), which are discussed above.

Even if one goes outside Kazakhstan, there have been relatively few cross-border analyses at the post-secondary level. For instance, Avolio et al. (2022) report on faculty members' opinions regarding how to best implement online learning in Peru (Avolio et al., 2022), stress during the initial lock-down in the United Arab Emirates (Moussa and Ali, 2022), study of and forecasts that virtual classrooms will become the common educational modality in India (Rashid and Yadav, 2020), and Flores et al.'s (2022) study of Portuguese student adaptation to online learning. Hence, this comparison of online education across hemispheres and cultures provides important and unique insight into effectiveness and efficiency of pedagogy.

METHODOLOGY

Concerns regarding the quality, motivation, and involvement of students on their online education went to the head of the class with the shift to complete reliance on distance education caused by the COVID-19 pandemic. The survey format has been shown to reveal one's emotions and opinions (Alsharif et al., 2020), and assesses the university community's ability to shift to an online platform (Budur, Demir, and Cura, 2021). For compatibility, the survey development process began with the original survey, which was supplied by the Kazakhstan authors of Kazybayeva et al. (2022), who surveyed students at the onset of the COVID-19 pandemic. Our survey was conducted two years after universities in the United States' initial closure in response to the pandemic. Education resumed and was conducted largely online for one year, followed by a "new normal" of offering face-to face classes, with the students having the option to participate in an online transmission of the classes. As a consequence, the Kazybayeva et al. study is more reactive while our analysis is more reflective of the impact of online pedagogy.

In order to assure reliability, the research process began with a refining and testing of the survey instrument consistent with the research design proposed by Moore and Benbasat (1991). The development process included three rounds of field tests, wherein academic scholars and recent alumni reviewed and provided feedback on the survey's readability, understanding, and length. A pilot test was then conducted with 11 subjects who used the same online survey tool as that for the full study. The subjects were taken from the targeted student body, but were

excluded from the full study's survey pool. The assessment indicated validity and reliability of the survey instrument and provided a basis for conducting the study. Instances of differences between the two surveys are discussed in the findings section.

Kazybayeva et al.'s (2022) findings are based upon 160 undergraduate, student survey respondents, while the current study is based upon 112 undergraduate, student survey respondents. Despite its smaller size, 43 male students completed the survey at both Almaty University and at Texas A&M-University-Kingsville (hereafter, TAMUK). As a consequence, the percentage of male students in the empirical sample rose from 26.9 percent for the Kazybayeva et al. (2022) study to 38.4 percent in the current investigation. Consequently, the percentage of students who are females dropped from 73.1 percent to 61.6 percent of the total sample. The resulting percentages in the current sample are closer to the fairly even spread of students across the sexes and minimizes any gender bias in the findings.

In a few instances, the survey instruments varied in order to capture student responses. One example is that the Kazybayeva et al. (2022) survey included an open-ended question asking students for input on what could be done to improve online education. The survey instrument employed at TAMUK did not lend itself to open-ended responses. Instead, the TAMUK researchers used questions aimed at providing insight to the importance assigned by U.S. students to general comments by Kazakhstan students. For instance, while the Kazybayeva et al. study lists "technical difficulties" as a source of student frustration with online education, the present study asks students whether they experienced: a.) a lack of internet access at home, b.) poor internet connection, or c.) technical difficulties. Another example of survey improvement is that while the former study observes that the use of asynchronous learning formats will improve student engagement, the current survey asks whether students prefer online (in either synchronous or asynchronous modalities), face-to-face, or a blended format.

For completeness, in the current study students are asked about their experience in synchronous and asynchronous classes. It also addresses Kazybayeva et al.'s (2022) assertion that there is greater student engagement in online education when the class structure includes asynchronous lectures. In concurrence with that opinion, the MBA program at TAMUK has been online and largely asynchronous from its origin; however, several undergraduate classes were taught in a synchronous and asynchronous format.

An environmental issue that may lead to a difference in findings is the length of the typical class period. Feedback provided by Kazybayeva (personal communication, August 17, 2022) revealed that the standard class period at Almaty Management University is 50 minutes, which is the normal length of a Monday/Wednesday/Friday class at TAMUK. However, over 43 percent of the classes taught at TAMUK during the spring semester when the sample was drawn were 75-minute classes taught twice a week. Consequently, the current study included attention windows going up to 60 minutes, plus a catch-all "over 60 minutes" category. There appears to be a typical class session length, or pedagogic culture framework that requires a longer attention span in the United States. Students using the extremes to benchmark the length of time they stay engaged, would be likely to report a longer attention span in the United States.

Another small cultural difference between Almaty Management University and TAMUK is the number of instructors in the classroom. While reporting it was quite rare, Kazybayeva noted that in multiple 50-minute classes there are two instructors in several classes when themes being taught make bringing two instructors together for the same period good pedagogy. At TAMUK, a single instructor is assigned to each class.

The other variation is an infrequent and slight variation in the wording of questions designed to address a given issue. For instance, at Almaty Management University, students were asked what they considered to be the ideal length of online education training. In the United States, the question was adjusted to ask how long students stayed engaged, believing that a student's online attention span is both similar to and a good representation of the issue of optimal length. It is highly unlikely that a student would identify the optimal length of the online presentation to be longer than the period during

which they would be engaged. Through the adjustment we are also able to present insight into student attention spans in synchronous and asynchronous classrooms. Both surveys are available from the authors.

The findings begin with an online weighting satisfaction index. A weighting scheme similar to that employed by Kazybayeva et al. (2022) was applied to the student responses at TAMUK. Specifically, students stating that they were "very satisfied" were assigned a value of 1.0, with students stating that they were "satisfied," "partially satisfied," "partially not satisfied," "not satisfied," and "extremely dissatisfied" being assigned values of 0.8, 0.6. 0.4, 0.2, and 0.0, respectively.

FINDINGS

Satisfaction with online education

Perhaps the result of most interest in the Kazybayeva et al. (2022) report is the level of student satisfaction with their online education in the wake of the onset of the COVID-19 pandemic. A majority of 53 percent of the students in Kazakhstan were either "partially satisfied" or "partially dissatisfied" categories. In contrast, only 12 percent of the TAMUK students had a "neutral" response to online education, as shown in the second row of Table 1. Instead, a much larger 78 percent of the students were satisfied with their online education at TAMUK. As shown in the right column of Table 1, this percentage is 54 percent higher than the 24 percent that were satisfied at Almaty University. The closest percentage in Kazakhstan and the United States is the percentage of students that were dissatisfied, which is 23 percent in the former and 10 percent in the later. Nonetheless, it appears that U.S. students had a much more favorable view of online education.

A weighting scheme similar to that employed by Kazybayeva et al. (2022) was applied to the student responses at TAMUK. Given that a much larger percentage of the students in the United States are satisfied with their online education, it is not surprising that the satisfaction index reaches 79.0. As shown in the bottom row of Table 1, this is a 27 point increase in the weighted satisfaction index. One likely reason for the difference in opinions regarding online education is the different

Table 1. Satisfaction with online education

	Kazakhstan	United States	Difference
Satisfied	24%	78%	+54%
Neutral	53%	12%	-41%
Dissatisfied	23%	10%	-13%
Weighted Satisfaction Index	52.0	79.0	+27.0

Source: A survey of 160 students at Almaty Management University in Kazakhstan reported in Kazybayeva et al. (2022) and 112 students at TAMUK.

perspectives associated when the surveys were conducted. Kazakhstani student responses were taken during the suspenseful, anxiety-prone early days of the move to an online modality, while our study was conducted after students had two years to adjust to the challenges of online education. Regardless of the origin, this difference in opinion regarding online education is likely to impact other comparisons between the two universities.

Duration of online engagement

As with a face-to-face instruction, a key to success in online education is the ability to stay "on task" in the non-classroom environment. The studies take different approaches to examining this issue. As shown in the first column of Table 2, 15 percent of Kazakhstan students believe the optimal time length is 10 minutes or fewer. Fifty-one percent of Kazakhstan students believe the optimal length of an online presentation is 20 minutes. This study examines student engagement, finding that at the 10-minute mark, only 10 percent of U.S. synchronous students, and 9 percent of U.S. asynchronous students are no longer engaged. At the 20-minute mark 27 percent of synchronous and 22 percent of asynchronous U.S. students are no longer engaged. Only 9 percent of Kazakhstan students believe that the optimal length of an online lesson exceeds 40 minutes, while the percentage of U.S. students still engaged is approximately 40

percent. Seven percent of students in a synchronous online class in the United States and 18 percent of students participating in an asynchronous session are still "on task" at the end of an hour.

Perhaps the most interesting finding reported in Table 2, and one that is not confounded by differences in culture or wording of the survey question, is the variation in attention span of the students in synchronous versus asynchronous classes in the United States. As presented in the two right columns of Table 2, at the end of every time frame more students in the asynchronous course are still engaged. Some possible reasons for this finding are that a.) there are no linguistic hurdles to overcome arising from either the instructor or student not being proficient in English, b.) if students do not understand a concept they can immediately review the topic, and review a topic as frequently as they wish, c.) students in an asynchronous class get to progress at a pace that with which they are most comfortable, and d.) students select the time window when they are available to interact with course content compared to a fixed time for a synchronous class.

Expectations and Experiences

An important pedagogic issue, regardless of modality, is whether education is living up to expectations. Consequently, Kazybayeva et al. (2022) and this analysis identify characteristics of online education that students believe are key to success in online education and their experience. This section of the report essentially contrasts expectations and experiences. The rating of seven potential characteristics that could complement online education are presented in Table 3. Scanning down the numbers, two important findings are revealed. One, the listed factors have the same rank ordering. Two, in all instances, Kazakhstan students give the characteristics a higher rating.

Table 2. Comparative Online Attention Spans
Cumulative percentage of Kazakhstan students who believe that lectures have reached their optimal lecture length (Kazakhstan) or are no longer engaged (United States)

		United States	
	Kazakhstan	Synchronous Classes	Asynchronous Classes
1-5 minutes	1		
6 -10 minutes	15	10	9
11–15 minutes	32		
16-20 minutes	51	27	22
21-25 minutes	67		
26–30 minutes	85	41	40
31-35 minutes			
36-40 minutes	91		
41-45 minutes		67	63
45-50 minutes	100		
51-60 minutes		93	82
Over 60 minutes		100	100

Source: A survey of 160 students at Almaty Management University in Kazakhstan reported in Kazybayeva at al. (2022) and 112 students at TAMUK.

In terms of the ordering, the pedagogic factors perceived to have the most importance in Kazakhstan and the United States are: a.) engaging students in discussion and b.) the inclusion of case studies and situational tasks. The characteristics considered to be the least important, in both countries, are: a.) percentage of voiced material, and b.) change in instructor during a class period. There is a noticeable drop in the students' perceived importance of voice material and changing instructors relative to the third least important factor, which is having a changing format for material submission.

Although the ranking of the seven factors is identical, there is a clear difference in the relative rating of the factors across the studies. For

instance, 40 percent of Kazakhstan students desire change in the format of material submission, while only 13 percent of U.S. students view this as a key method to improve online pedagogy. Kazakhstan students also have a more favorable view of the existence of a balanced flow of material.

Due to the reliance on online education arising from the COVID-19 pandemic, all students have had exposure to online education, but their experiences and how their experiences are perceived vary. The rating of online experiences across key dimensions is listed in Table 4, which is arranged in the same order as the Kazakhstan results appearing in Figure 4 of the Kazybayeva et al. (2002) study. The TAMUK-based rating of key factors is presented in the second column of Table 4, with the rating difference exhibited in the final column. In both nations there is a narrow band of student perceptions of their online experience for these eight (8) characteristics of online education. Kazybayeva at al. (2022) report a higher amount of uniformity regarding student perceptions of their online experience across these characteristics, ranging from 25 percent to 41 percent. Likewise, U.S. students rate the factors in a very narrow band, however the entire range is above that of the Kazakhstan students, running from 55 percent to 62 percent. The differences monotonically increase as one moves down the column of factors that are displayed in Table 4 due to the decreasing perceived importance assigned by Kazakhstan students.

Table 3. Perceived Ways to Improve Online Pedagogy

	Kazakhstan	United States	Difference
Engaging students in the discussion	58%	50%	8%
Inclusion of case studies and situational tasks	50%	44%	6%
Frequent change of images, diagrams, pictures	44%	38%	6%
Balanced flow of material	43%	29%	14%
Changing format of the material submission	40%	13%	27%
More voiced material	13%	5%	8%
Change in instructor during the session	6%	4%	2%

Source: A survey of 160 students at Almaty Management University in Kazakhstan reported in Kazybayeva at al. (2022) and 112 students at TAMUK.

Table 4. Rating of Online Experience across Key Dimensions

	Kazakhstan*	United States	Difference
Professionalism of the instructor	41%	58%	17%
Content of the material	38%	60%	22%
Presentation design	34%	55%	21%
Clarity of assigned tasks	32%	62%	30%
Course structure and consistency	32%	62%	30%
Material is clear and accessible	31%	62%	31%
Constructive feedback from instructor	28%	57%	29%
Interesting to learn	25%	60%	35%
*Kazakhstan students were also asked about the "usefulness of the material" which is captured in the "content of the material item", "Changeability of the material format" which is captured by "Course structure and consistency", and "Quality of the Internet" which is captured with the "material is clear and accessible question."			

Source: A survey of 160 students at Almaty Management University in Kazakhstan reported in Kazybayeva et al. (2022) and 112 students at TAMUK.

Considering the ordinal ranking of the factors reported in Table 4 reveals a clear difference in the online experience of Kazakhstani and U.S. students. Kazakhstani students give high ratings

to the professionalism of the instructor and content of the material, while U.S. students assign their highest average ratings to the clarity of assigned task, course structure and its consistency, and material that is clear and accessible. At the other end of the spectrum, Kazakhstani students give a low rating to the constructive feedback (i.e., limited feedback) from instructors and the fact that the topic is (not) interesting to learn. By contrast, U.S. students give the lowest rating to presentation design. The implication is that U.S. students have had more experience, relative to other factors, with online learning that does not bring facts and ideas together in an integrated, engaging manner.

Addressing Low Engagement

Kazybayeva at al. (2022) concludes with several listings of ways to create a more engaged online educational environment which were developed on the basis of open-ended questions. The first worry addressed is that of low engagement of students in the online environment, which is partially exemplified by the relatively short online attention spans discussed above. The authors group Kazakhstani student observations into four categories. A minimum of two questions were asked of U.S. students within each factor grouping regarding aspects of the overall factor. The percentage of students that felt the given aspect was a significant reason for unsatisfactory performance in online education is given in Table 5.

Table 5. Perceived Reasons for low Involvement in Online learning

Kazakhstan Groupings are identified by Kazybayeva et al. (2022), without percentages.

Percentage column represents the percent rating this aspect of online education as a significant reason for unsatisfactory online performance

Kazakhstan Grouping	United States Measure	Percent of U.S. respondents identifying factor as important
Group 1. Interpersonal Communication: Interaction between students and between students and professor	Lack of direct discussion and communication	36.4%
	Poor feedback	26.3%
Group 2. Information relevance: Lack of confirmation of theoretical material by practical examples; uninteresting, confusing material	Lack of experiential learning (field trips, meetings with industry professionals, etc.)	37.4%
	Complexity of information	25.3%
Group 3. Active learning: Application of game form of learning	Low level of student involvement in the learning process	40.4%
	Difficulty concentrating	35.4%
Group 4. Operational Context: Duration of lesson, Poor internet performance	Technical difficulties	53.5%
	Poor Internet connection	45.4%
	Difficulty maintaining attention for a long period of time	37.4%
	Lack of internet access at home	20.2%

Source: A survey of 160 students at Almaty Management University in Kazakhstan reported in Kazybayeva et al. (2022) and 112 students at TAMUK.

A lack of interaction between students and between students and instructor is the factor grouping listed first in Kazybayeva et al. (2022) as a reason for low student online engagement, which is presented in the first panel of Table 5. Over one third of the U.S. students (i.e., 36.4 percent) felt that the lack of direct discussion and communication would lead to unsatisfactory performance. A lesser, one-fourth of the U.S. students (i.e., 26.3 percent) felt poor feedback from the instructor leads to unsatisfactory performance.

Information relevance was the second factor grouping identified as a reason for low online engagement among Kazakhstani students. For this factor, the two aspects tested were a lack of experiential learning and complexity of information. Interestingly, the proportions that felt that these were critical aspects of the overall factor were again approximately one third and one fourth of the surveyed U.S. students.

Active learning is any learning activity in which the student participates or interacts with the learning process, as opposed to passively taking in the information. When given the opportunity to actively engage with the information they are learning, Kazybayeva et al. (2002)'s findings suggest that that students will perform better and be more active in the online environment. The findings for U.S. students are consistent with these claims, finding that 40.4 percent agree that a low level of student involvement in the learning process will lead to unsatisfactory performance. Meanwhile, 35.4 percent agreed that difficulty in concentrating will lead to poor performance in the online environment.

The fourth factor grouping, dealing with operational issues, was the technology issues with the component of Kazakhstani online education receiving the most support from its U.S. counterpart. Over half of the students at TAMUK felt that technical problems would lead to low engagement. Additional inquiries revealed that this aspect includes problems with downloading and playback, which go beyond the poor internet connection and lack of internet connection at home. As shown in the bottom panel of Table 5, these aspects were identified by 45.4 percent and 20.2 percent of U.S. students. The other aspect listed in this online factor grouping within the Kazybayeva et al. (2022) study is the difficulty maintaining concentration. Although there is some evidence that the U.S. students demonstrated an ability to stay focused for a longer period of time, 37.4 percent acknowledge the difficulty of maintaining concentration for a long period of time.

Improving Online Engagement and Effort for All Students

The final table in Kazybayeva et al. (2022) lists a variety of ways to improve online engagement and effort for all students. Asynchronous training is listed as a key method to enhance student participation. In response to their assertion, several questions were asked of TAMUK student regarding asynchronous education, which are revealed in Table 6. Although 24.8 percent of students would like to enroll solely in asynchronous classes, 71.5 percent prefer a mix of synchronous and asynchronous classes. Synchronous classes, whether judged relative to online courses specifically (as exhibited in Panel A of Table 6), or all class formats (as exhibited in Panel B), has a low level of interest among U.S. students. Interestingly, three times as many students prefer asynchronous instruction to face-to-face instruction.

The other two panels in Table 6 provide additional insight to the preferred asynchronous class format. Students at TAMUK reported a preference for visualized material over spoken material, but would prefer their online classes to have both presentation styles. Given the flexibility provided by the asynchronous format, it is not surprising that 86.1 percent recognize the convenience provided by pre-recorded video lectures. At the low end of the spectrum is the inclusion of guest speakers, which is likely to have the least flexibility across the listed potential components of a class that is primarily synchronous.

DISCUSSION

Much of the research arising from the rapid spread of COVID-19 has examined an empirical sample within a single environment. This study expanded upon Kazybayeva et al.'s (2022) employment of the sensory impact model to assess a variety of online pedagogical issues in a different environment. To offer a comparative analysis with the prior study, the current study was conducted among a diverse group of business students at Texas A&M University-Kingsville, an AACSB-accredited institution located in a rural region of Texas. Satisfaction with online education within the new empirical sample could be a consequence of their reported higher attention span and typically higher rating of their experience with a broad range of online pedagogic features. The students at TAMUK perceive lesser need to improve online education. However, over a third identify at least one aspect of online education, within each of the factor grouping in the prior study, could be managed to improve the challenge of low online engagement. Several positive aspects of online

education are noted by both groups, with the present study filling in some of the void in the Kazybayeva et al. (2022) study regarding effective utilization of an asynchronous modality. A limitation of this study, that may well have created some of these differences is that the Kazakhstani students being surveyed in 2020, near the outset of the pandemic, while the U.S. students were surveyed in 2022, and hence have a different perspective regarding the value of online education. In an ideal world, the same Kazakhstani students would be surveyed again to see how their perceptions have changed. While this timing issue limits the theoretical contributions of this research, it does not diminish the implications regarding universal pedagogic factors that are likely to enhance online student success.

Table 6. Ways to Improve Student Engagement and Effort in the Online Environment
Online Pedagogy Characteristics identified in Kazybayeva et al. (2022)

A. United States Measure: "Preference for online course format?"					
A Mix of Both		Asynchronous		Synchronous	
71.5%		24.8%		3.7%	
B. United States Measure: "Preferred class format?"					
Online Asynchronous	Depends on the course	Blended (web-enhanced) course	Face-to-face classes	Online synchronous course	No preference
33.0%	26.8%	18.6%	11.3%	5.2%	5.2%
C. United States Measure: In asynchronous online classes, the preferred presentation style is:					
Primarily visualized material		Primarily spoken material		Balance of visualized and spoken material	
25.5%		1.9%		72.6%	
D. United States Measure: "Which of the following forms of online learning do you find most convenient?"					
Pre-recorded video lectures	Video-conference (i.e., Zoom)	Chats	Live presentations	Team Projects (i.e., MyGroups)	Forums	Guest speakers
86.1%	64.8%	49.1%	39.8%	25.9%	22.2%	15.7%

Source: A survey of 160 students at Almaty Management University in Kazakhstan reported in Kazybayeva et al. (2022) and 112 students at TAMUK.

CONCLUSION AND RECOMMENDATION

Countries around the world continue to face ramifications of the COVID-19 pandemic. Many of these concerns are tied to student test scores. By the time the original In 2022, when the original paper was published in *the Journal of Eastern European and Central Asian Research* students had transitioned through two years of online experience during the pandemic, early days of vaccinations, and widespread government transfer payments to support ailing economies. Therefore, while the initial Kazakhstani students are standing at the precipice looking towards a highly uncertain future, the surveyed United States' students benefit from having a two-year perspective. Changes during the years occurred in and out of the classroom, and many may have impacted student perceptions of online education.

Besides resurveying the original sample, further understanding of the online academic environment can be gained through extension of this research to other empirical samples. Fresh insights will arise from study of these issues in other regions with varying levels of prior pedagogic technological innovation and utilization, cultures, and urbanization. Insight would also be gained by simultaneously evaluating the consistency of student perceptions across disciplines and online management systems. Acumens such as this has the potential to have significant impact on

administrator decisions, faculty instruction, and both the perception and success of students.

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ABOUT THE AUTHORS

Thomas M. Krueger: thomas.krueger@tamuk.edu. Corresponding author.

Randy G. Colvin is Assistant Professor, Management and Marketing Department, Texas A&M University-Kingsville, USA.

Natalya Delcoure is Professor of Finance and Dean, College of Business Administration, Texas A&M University-Kingsville, USA.

Dr. Thomas M. Krueger. Dr. Krueger is Professor of Finance, Manning Endowed Professor of Innovation in Business Education, and Chair of the Accounting and Finance Department at Texas A&M University-Kingsville, USA.

Mr. Harmeet Singh, CFA, is Lecturer of Practice, Texas A&M University-Kingsville, USA.