Is Consistency Possible? Course Design and Delivery to Meet Faculty and Student Needs

Taralyn McMullan, David S. Williams, Yolany Lagos Ortiz, & Jackie Lollar
University of South Alabama

Abstract: As online learning continues to rise, students find educational value in consistency of instruction and technological support. With the significant increase in faculty designing courses, success lies with faculty education in instructional design. Additionally, students need support to navigate through the LMS and course elements to achieve success and increase their knowledge level. Determining the needs of nursing students and faculty is essential to the process of developing an effective course design for students leading to valuable content delivery and achievement of student outcomes. The purposes of this study were: (1) to measure attitudes toward online course design, (2) to compare online course delivery with instructor involvement, and (3) to determine changes to online courses. A significant finding is consistency within the LMS in course design and increased use of technology in content delivery.

Introduction

Blended and fully online learning has been a cornerstone for many colleges and universities as today's students face challenges causing in-person learning to be cumbersome. Although instruction varies by institution, degree, course, or even faculty, student mastery of content remains the primary goal and serves as a foundation for curricular development. According to the National Center for Education Statistics (n.d.), over 7 million students were enrolled in some form of distance or online learning in 2019. Hence, students are faced with many options when it comes to their learning pathway, and delivery of instruction is just one facet that facilitates their decision.

Accrediting bodies such as the American Association of Colleges of Nursing (AACN) developed a standard of principles that each program could deliver, mimicking those of a traditional classroom environment. As such, the importance of consistency among student outcomes in relation to the institution's mission, goals, and objectives of the program, while establishing a measure of student and program success serves as a core element. Furthermore, faculty must facilitate appropriate technical support, clinical competence, professionalism, and resources while engaging in ongoing faculty development (AACN, 2021) to support teaching practices.

With the increase in online learning being offered, it is of no surprise that the number of students reported to take an online course has increased from 37% (Fall 2019) to 51.8% (2019-2020) (Hill, 2021). While many different platforms exist in the development and execution of learning, most rely on pedagogy as a foundation to the instruction. Therefore, it is essential for faculty to be supported with technology and instructional design theories that support the construction of courses while enhancing the student's experience. Martin et al. (2019) found that faculty teaching online may need a variety of professional development support in terms of administration, personnel, technology, and pedagogy.

As blended and fully online teaching becomes more of the norm, it is important to measure if learning outcomes are being achieved and how the selected instructional technology is used to help achieve those outcomes. Therefore, the need to measure success of learning is necessitated by whether technology gaps exist, thus influencing student achievement. We must be cognizant of demographics impacting students and faculty, experiential learning, instructional design properties of the Learning Management System (LMS), self-efficacy, and the tools used in the classroom as important variables. The purposes of this study were: (1) to measure attitudes toward online course design, (2) to compare online course delivery with instructor involvement, and (3) to determine changes to online courses. For the purposes of our study, we draw a distinction between technical requirements and technology. Technical requirements refer to how to find assistance in using required computer software and hardware. The use of technology refers more broadly to using the tools needed to complete the required course instruction and learning activities.

Course design is built on the needs of the learner and should begin with transparent learning outcomes, along with intentional and strategic design rooted in evidence-based practice (Bradshaw et al., 2021). The theoretical knowledge of Malcolm Knowles postulates learners must: (a) be aware of why they must learn; (b) learn by experience; (c) learn through problem-solving activities, and (d) perceive an immediate value (Knowles, 1990 as cited in Bradshaw et al., 2021). Similarly, it is of equal importance to allow faculty who design the courses to be well-versed in instructional design methods to allow for proper dissemination of the course material. Likewise, learners also rely on previous experiences and potential outcomes of their learning to affect their future as an incentive to pursue education. Therefore, learners may be more inclined to be self-directed in learning, but consistency may not always be present in the content delivery (Spies & Botma, 2020), minimizing users' ability to access resources and materials to enrich their overall learning experiences.

Educational developers often rely on evidence-based design frameworks when collaborating with instructors. One of these frameworks is Quality Matters (QM) which is a set of rubric standards that focus on alignment of course objectives to assessments to help foster quality assurance in online course design (Quality Matters, 2021). Likewise, the Online Learning Consortium's Quality Scorecard Suite is a series of design rubrics based on best practices and

principles for online course development to help educational developers and faculty implement accessible and quality learning environments (Online Learning Consortium, 2022). In course development, alignment of objectives, activities and assessments must be threaded throughout the course (Markari et al., 2020; Smith & Kennedy, 2020). Applying standards-based design frameworks like QM criteria and the Online Learning Consortium's Quality Scorecard framework can strengthen design consistency among learners, course developers, and instructors (King & Nininger, 2019; Lancaster et al., 2019).

Khamis et al. (2018) found that among medical students, information technology was instrumental to the perceived learning experiences. Positive outcomes included improving work speed, relevancy, extending learning/knowledge outside the classroom, connections, and accessibility which are essential in the college experience. Interestingly, their study also revealed that male and female students would like to see even more technology usage via email, video-sharing, web portals, medical wikis, and even through online educational games. These findings may help faculty to ensure the design incorporates methodologies and platforms which can be readily accessible through a variety of devices (Cobanoglu, 2018; Mackavey & Cron, 2019) both in the classroom and in the field.

Actively engaging learners provides for a perception of social presence, yielding more positive results among students while supporting learning (Chung & Chen, 2020; Olson & Benham-Hutchins, 2020; Smith et al., 2019) and retention efforts (Serembus & Riccio, 2019). While surveys do exist to measure student engagement, other factors, such as analytical measurement through the LMS platforms, also provide capabilities to determine how much time students spend viewing different areas of the course leading to better academic performance. This information is paramount when considering course design (Serembus & Riccio).

Similarly, faculty satisfaction with using a LMS can be highly influential to the student's perceived learning and actual utilization of the system. Perceived usefulness and quality of service are additional variables reinforcing instructor and student satisfaction (Almarashdeh, 2016). Faculty self-efficacy and personal competence serve as fundamental building blocks to instructional effectiveness and can be influenced by other concepts such as: ability to control the environment, technology, LMS platform, and the ability to create successful strategies for students' learning outcomes (Hampton et al., 2020). Programs should be based on evidence-based principles that guide the learner through the process of learning rather than instruction (Sinclair et al., 2017).

Method

Our research occurred within a regional public university in the southeastern United States, with the College of Nursing (CON) serving as the targeted site. The university enrolls an average of 14,000 students, with the CON being the largest college within the system. Average enrollment in the Fall/Spring semesters is 3000+ students and includes undergraduate, graduate, and doctoral students.

A concurrent triangulation mixed methods design was used to answer our research questions (Creswell, 2013). To investigate the research questions, we developed a set of questionnaires administered to faculty and students in the CON that included quantitative and qualitative questions. The Online Learning Consortium's *Quality Scorecard Suite* (OLC, 2021) was used as a theoretical framework to develop scale questions measuring online course features like consistent design, instructor involvement, learning activities, grading, feedback, use of video content, and technology requirements. The wording of Likert scale question items was adjusted between the faculty and student versions of the questionnaires to accommodate each audience.

The following scale was used for the Likert items: 1) strongly disagree, 2) somewhat disagree, 3) neither agree nor disagree, 4) somewhat agree, and 5) strongly agree. Open-ended and demographic questions were also adjusted based on each audience to allow for the strongest comparisons.

We were also interested in investigating additional issues related to online course delivery from faculty and student perspectives because of institutional changes in the learning management system and other instructional technologies. We anticipated that data gathered from the study could inform continuous improvement to both training programs for faculty and potential changes to college-level course delivery policies to support a stronger student experience. The following table shows the alignment between the research purposes and questionnaire items to provide context for the various terminology used in the study. It also shows specifically where in the Results section details about the questionnaire items are located.

Table 1
Alignment of research purpose to questionnaire

Research Purpose	Questionnaire Items	Results Section
Measure attitudes toward online course design	Items measuring elements of course experience	Table 3
Compare online course delivery with instructor involvement	Items measuring elements of course facilitation	Table 4
	Items measuring instructor involvement	Table 5
	Items measuring technical requirements	Narrative following Table 5
	Items related to video content	Table 6
Determine changes to online courses.	Open-ended items	Tables 7 and 8

Additionally, we included demographic-type items for faculty and students to investigate if any notable commonalities or trends would be found in the data.

Sample
After obtaining Institutional Review Board (IRB) approval, the pilot version of the questionnaire was administered in October 2019 via Qualtrics online survey tool to faculty and students from four undergraduate and four graduate online courses that were implemented in the institution's previous LMS. We hoped the pilot questionnaire would provide a benchmark regarding online course experiences in faculty and students that would serve as a comparison point once the change in LMS was completed in additional courses. We originally planned to

make any adjustments to the questionnaire and then implement it again in Spring 2020 and Fall 2020 as the LMS migration commenced.

The impact of the COVID-19 pandemic redirected the focus of this research project and caused a shift in our data collection plan. We were able to resume this research project in April 2021, toward the end of Spring term, and well after the migration of all courses to the new LMS was complete. Because of the amount of time that had passed and the impact of COVID-19 on the institution, we became most interested in how students and faculty felt about their online course experiences now that a new system had been implemented.

We made only slight updates to the questionnaires, including asking faculty and students to identify specifically how the use of the new LMS could be improved. We also included open-ended questions regarding the most positive take-aways taking or teaching the course as well as suggestions for improvement of the course. We did not change the Likert scale questions or categories. The updated questionnaires were approved by the IRB, and all College of Nursing faculty (full-time and part-time) and students were invited to complete the survey via Qualtrics online survey tool in April 2021. The response rate of the 2021 implementation is detailed below in Table 2.

Table 2
Participant Response Rate

Questionnaire Version	Faculty		Student	
	N	Response Rate %	N	Response Rate %
Spring 2021 Questionnaire	58	53.21%	107	3.10%

The response rate for students was low, with busy schedules, timing of the administration at the end of the semester, and survey fatigue being possible explanations. The results of the 2021 survey implementation are addressed in the next section.

Results

In order to compare attitudes and experiences of nursing faculty and students, an independent sample *t*-test was conducted on the questionnaire items measuring elements of course experience (e.g., syllabus, expectations, clarity of assignments and resources, online course facilitation, instructor involvement), technical requirements, and video content. Mean differences between faculty and student scores on relevant items are reported below. Homogeneity of variances, as assessed by Levene's test for equality of variances, was found on some question items; for question items that violated the assumption of homogeneity of variance, the Welch (1947) method to adjust the degrees of freedom was used.

Table 3 shows the mean differences from items measuring general online course experiences. The words in parentheses are the word adjustments to the items for the faculty version. Nine question items were included to measure online course experience. The two items in the table reflect mean differences between faculty and students larger than .6.

Table 3

Items related to course experience.

Question	Faculty		Student		t	df	p
	M	**SD**	**M**	**SD**			
Your (The) workload throughout the course was evenly distributed.	4.59	.747	3.90	1.207	-3.769	62.248	.00
Course activities were appropriately paced and evenly distributed.	4.57	.742	3.92	1.193	-2.750	141	.007

Note: There was homogeneity of variances for "course activities were appropriately paced and evenly distributed" ($p = .098$).

These questions were the only items with statistically significant mean differences, which indicated a slightly stronger view among faculty that the schedule of the course and the pacing of learning activities were evenly distributed. In terms of practical significance, the mean scores for faculty and students in the 2021 data for all items measuring course design factors were near or above 4.0, indicating fairly strong agreement in perceptions among faculty and students.

Table 4 shows the mean differences from items specifically measuring online course facilitation. Nine question items were included to measure this construct. The eight items in the table reflect mean differences between faculty and students larger than .6.

Table 4

Items important to online course facilitation

Question	Faculty		Student		t	df	p
	M	**SD**	**M**	**SD**			
Having consistent order in left bar navigation among different courses.	3.35	.915	4.15	.914	4.288	143	.00
Having a "Start Here" module that is similar among courses (you facilitate).	3.26	.930	3.99	1.243	3.055	142	.003

Table 4 *(continued)*

Question	Faculty		Student		*t*	*df*	*p*
	M	SD	*M*	SD			
Having (recording) a welcome video for the class (from the instructor).	2.97	.912	3.68	1.358	3.435	70.571	.001
Having (recording) a video to introduce new content.	3.03	.875	4.19	1.065	5.535	142	.00
Having synchronous web conferences during the term (to give student) opportunities to ask questions or to attend live lectures.	2.73	.907	3.78	1.299	5.061	64.539	.00
Having weekly modules or lessons that follow the same sequence through the course.	3.45	.768	4.10	1.069	3.145	142	.002
Having weekly modules or lessons that follow the same sequence among different courses.	2.81	.980	3.79	1.184	4.231	142	.00
Having (Providing) the same process for accessing resources across all courses (you facilitate).	3.30	.877	4.38	.869	6.041	141	.00

Note: The homogeneity of variances assumption was only violated on "Having (recording) a welcome video for the class (from the instructor)" and "Having synchronous web conferences during the term (to give student) opportunities to ask questions or to attend live lectures." For these items, the values for equal variances not assumed are presented here.

The mean scores of students for each of these questions were higher than the faculty scores, likely because of the larger *N* of students. Still, in terms of practical significance, items related to recording video content, providing web conference sessions, and consistent module sequencing among different courses were at or just below 3.0. Student scores on these same items reflect a much stronger desire for more use of video and module consistency. Data on these questions from the 2019 pilot were used anecdotally by College of Nursing faculty and staff for course design planning in preparation for the new LMS.

Table 5 shows the mean differences from items specifically measuring instructor involvement. Seven question items were included to measure this construct. The two items in the table reflect mean differences between faculty and students larger than .6

Table 5
Items related to instructor involvement

Question	Faculty		Student		*t*	*df*	*p*
	M	**SD**	*M*	**SD**			
Instructor (I) provided timely feedback on your assignments.	4.55	.850	3.81	1.381	-3.706	78.217	.00
Instructor (My) presence was notable throughout the course.	4.61	.803	3.72	1.379	-4.614	83.209	.00

Note: There was homogeneity of variances assumption was violated on both of these items. The values for equal variances not assumed are presented here.

Interestingly, the mean scores of students for each of these questions about the instructor's involvement in the course were lower than the faculty scores. In terms of practical significance, all mean scores for items in this question block for faculty and students were closer to 4.0 on the scale, indicating broad agreement on instructor activities.

The next block of questions in the instrument measured technical requirements, such as the following: providing information about where to find technical assistance; information regarding computer, hardware, and software requirements; and netiquette with appropriate online behavior guidelines. None of the three items measuring technical requirements had differences in mean scores larger than .6. Though there were statistically significant differences for items on finding technical assistance and information about computer requirements, there was no practically significant difference among students and faculty. Further, the mean scores for each group were near or well above 4, indicating consistent agreement that technical requirement information was provided in their course sites.

Table 6 shows the mean differences from items specifically measuring video content. Six question items were included to measure this construct. The four items in the table reflect mean differences between faculty and students larger than .6

Table 6
Items related to video content

Question	Faculty		Student		t	df	p
	M	SD	*M*	SD			
The course videos were useful.	4.60	.770	3.96	1.332	-3.42	80.264	.001
The course videos were well presented.	4.67	.606	3.91	1.293	-4.592	102.513	.00
The course videos had good audio quality.	4.63	.615	4.12	1.204	-3.195	93.065	.002
I find the (recording) course videos overwhelming.	2.83	1.605	2.09	1.359	-2.504	138	.013

Note: There was homogeneity of variances for "I find the (recording) course videos overwhelming" ($p = .069$). The values for equal variances not assumed are presented here for the remaining values.

Though there was no statistically significant difference in "The videos were no longer than 15 minutes," there is practical significance here in the similar mean scores about how to improve the use of video content in online nursing courses. The difference in mean scores on these items reflects a slightly stronger agreement among faculty in the use and presentation of video content. The use of video content was not viewed as overwhelming. The qualitative data presented below further confirms the desire from students for consistent, high-quality videos provided by their instructors.

Qualitative Data
     Qualitative Data was collected from two open-ended items in the faculty version of the questionnaire and three open-ended items from the student version of the questionnaire.

Response Summary
     Table 7 shows the number of responses to the three open-ended questions in the student's instrument.

Table 7
Students' responses to open-ended questions

Question	N
What suggestions would you make to instructors about ways to improve video content in this course?	66
What are your top 3 most positive feelings about your experience in the course?	79
What are your top 3 suggestions to improve the use of Canvas in the course?	69

Table 8 shows the number of responses to the two open-ended questions in the faculty instrument.

Table 8
Faculty responses to open-ended questions

Question	N
What are your top 3 positive take-aways from teaching your courses?	24
What are your top 3 suggestions to improve the use of Canvas at the College of Nursing?	25

Coding Process

We used inductive, open coding to create codes and then categories of codes for the faculty and student responses. One researcher open coded responses for both faculty questions and the student questions related to video content and suggestions for course improvement. A second researcher open coded the responses of students' positive feelings about the course. These researchers met to review each other's data set and present the list of codes that had emerged from each of the questions.

The researchers reviewed the codebook and then resolved any disagreements in how the codes were applied to come to consensus on the larger categories of codes to represent participant meaning and achieve intercoder reliability (Johnson & Christensen, 2017). Subsequently, the researchers met to specifically review the coded themes in the faculty responses to the top three positive takeaways and top three suggestions and the coded themes in the student responses to the top positive feelings and suggestions for improvement. We coded the individual faculty/student responses separately to get more saturation of themes, as each group of participants had themes that were inherently linked to their characteristics as faculty or students. Moreover, we used the themes that emerged from the faculty response to analyze where similar responses from the student data sets could be found to present overlapping thoughts or ideas to present meaningful comparisons. The coding process and categories of codes were shared with the remaining two researchers, who also agreed with the analysis of these questions

Results

When selecting which themes to report, we decided to report those that had relevance to the research purpose and objectives. The categories of codes, or themes, are presented in the following figures. Figure 1 shows the top themes extracted from student suggestions for improving video content in their online courses.

Figure 1
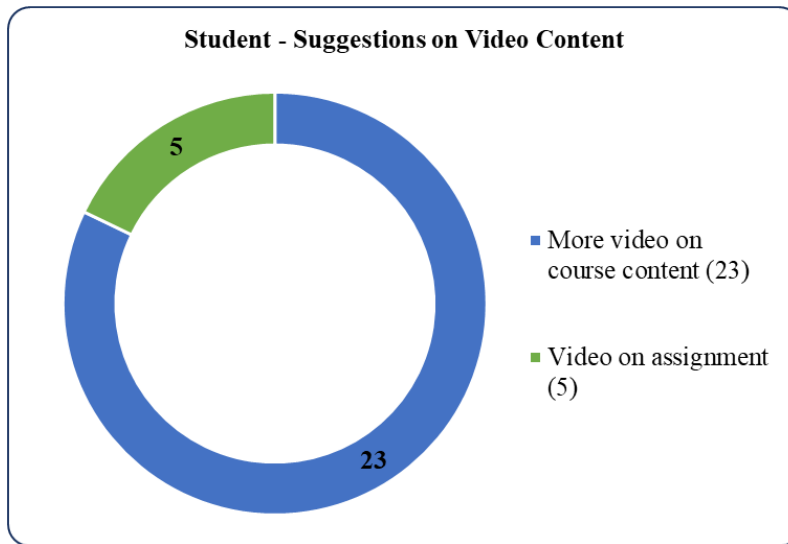*Student Suggestions to Improve Video Content*

Figure 2 shows the top themes extracted from student responses when asked to list their top three positive take-aways from teaching their course (faculty) and from their overall experience in taking their courses (students). The results for each group are presented here together for ease of comparison.

Figure 2
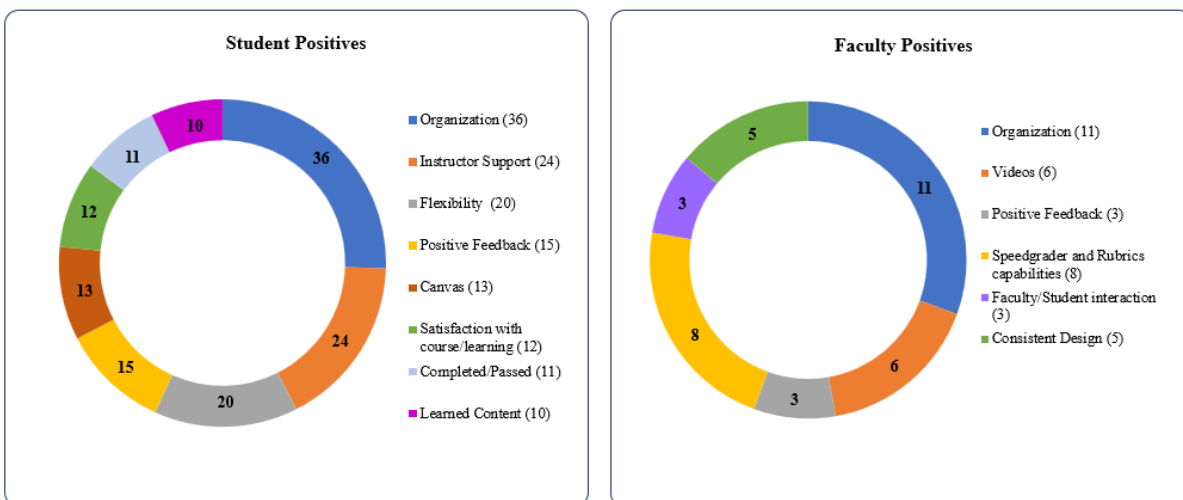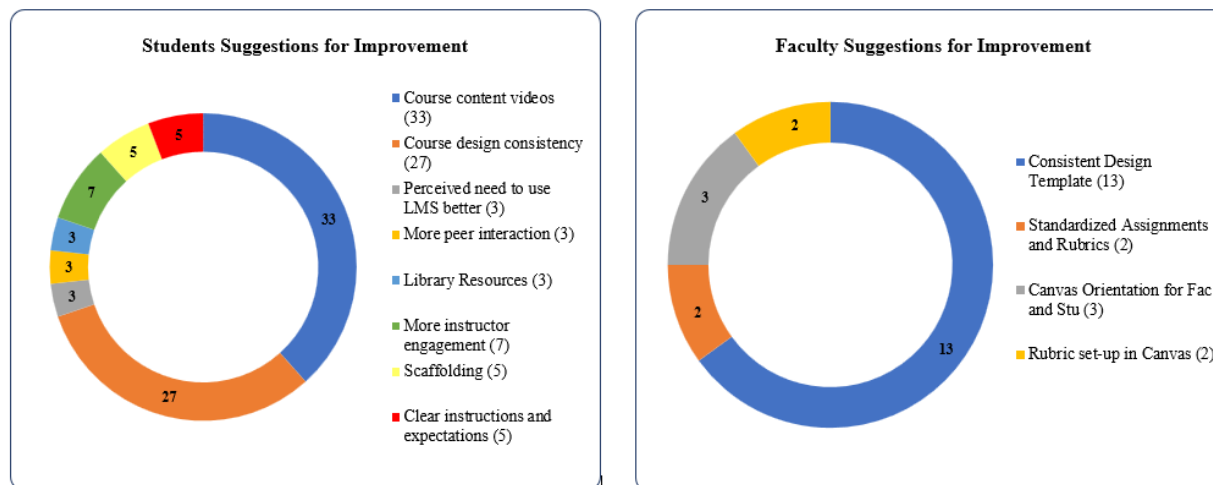*Student and Faculty Positive Take-Aways from Their Course Experiences*

Figure 3 shows the top themes extracted from student and faculty responses when asked to list their top three suggestions to improve the use of the LMS in their courses within the College of Nursing.

Figure 3
Student and Faculty Suggestions to Improve the Use of the LMS in their Courses

Discussion

Measuring Attitudes towards Online Course Design and Comparing Experiences

We sought to measure the attitudes and experiences of nursing faculty and students about blended and fully online learning and course design to allow for meaningful comparisons of their experiences. The OLC Quality Scorecard Suite (OLC, 2021) framework that organized our instrument helped highlight where faculty and students had consensus and where notable differences could point to improvement in the design and delivery of online courses. Our study participants indicated that flexibility in blended and fully online learning is crucial to their ability to adapt to an environment that is ever-changing.

Course Experience

Faculty and students overall expressed strong agreement on the items measuring course experience. These results were positive and indicated that faculty and students agreed that elements such as clear expectations listed in a syllabus and ease of accessing needed resources were present in the blended and fully online delivery. The notable difference in the quantitative results between faculty and students was found in perceptions of workload distribution and pacing of course activities; this finding relates to qualitative data gathered from the student and faculty positive take-aways from their course experiences. The theme of *organization* was the largest, with the most coded responses from the open-ended question about course positives from faculty. In terms of organization, one faculty participant stated that "Having a consistent format in each module that includes the unit resources, the assignments, and the content" was an important course feature. The theme of *organization* was the largest theme in the data from student positive take-aways and may help explain student feelings about workload, design, and pacing. Similar to the faculty participant, students commented that their course was "well organized" and "digested." Another student expressed, "Canvas use should be standardized.

Instructors should be required to put assignments in the same place and be consistent." This sentiment may explain the lower agreement from students regarding workload and pacing.

Tables 9 and 10 show the largest selected codes from the faculty and students regarding their top positive take-aways and suggestions for improvement with representative comments for each.

Table 9

Codes for Faculty Responses

Code	Positive or Suggestions	*N*	Representative Comment
Organization	Positive	11	"I love my other course coordinator's organization of the class"
Speedgrader and Rubrics capabilities	Positive	8	"In addition to annotated feedback, video and audio recording are the best tools available to support student success"
Videos	Positive	6	"Short, precise videos"
Consistent Design Template	Suggestions	13	"Organization of content needs to be improved to facilitate finding everything in one place"
Canvas orientation	Suggestions	3	"students may need more orientation to use in general v. just training"
Standardized assignments and rubrics	Suggestions	2	"Have all assignments with a similar template and make sure the instructions match the rubric"

Table 10

Codes for Student Responses

Code	Positive or Suggestions	*N*	Representative Comment
Organization	Positive	36	"Well Organized", "Easy access to modules"
Instructor support	Positive	24	"The instructors were excellent at keeping students informed"
Flexibility	Positive	20	"Flexibility to read material on my own time"

Table 4 *(continued)*

Code	Positive or Suggestions	*N*	Representative Comment
Course content videos	Suggestions	33	"Record a lecture for each section and post it to canvas"
Course design consistency	Suggestions	27	"Canvas use should be standardized. Instructors should be required to put assignments in the same place and be consistent"
More instructor Engagement	Suggestions	7	"Instructors should be more responsive to students by replying to emails and answering questions and clarifying information"

Online Course Delivery and Instructor Involvement

Students had overall stronger agreement on items measuring online course facilitation, but faculty had overall stronger agreement on the significant items measuring instructor involvement. The data indicate reasonably strong student preference for consistent course navigation throughout the course and for some design consistency within and across their online courses. Faculty indicated moderate disagreement in module consistency among different courses, and this could be related to the different types of courses facilitated within the degree programs (e.g., clinical courses, didactic courses, orientation/information sites). Despite some of the differences noted here, the qualitative responses further illustrate student and faculty experiences. One faculty participant emphasized, "Organization of content needs to be improved to facilitate finding everything in one place," while a student participant similarly expressed that "Canvas use should be standardized. Instructors should be required to put assignments in the same place and be consistent." Students agreed (more so than faculty) that having a welcome video from the instructor to the course, having a video from the instructor to introduce new content, and having synchronous conferences facilitated by the instructor were important course features. The feedback on the use of synchronous web conferences stood out. Synchronous web conferences have been used by nursing faculty intermittently and with varying degrees of success given the nature of student schedules and the fact that courses are delivered asynchronously. While unlikely to be adopted more uniformly at the program level, faculty may consider ways to incorporate some synchronous sessions for check-ins, content review, or other ways to connect students to the course, the instructor, and their peers.

In terms of instructor involvement, feedback from the instructor and overall presence in the course emerged as points of comparison between faculty and students. Still, the mean scores for items in this question block for faculty and students were closer to 4.0 on the scale, indicating broad agreement on instructor activities. One faculty participant commented, "Students feel more confident with frequent faculty involvement." The following student comments further highlight their feelings about the importance of faculty involvement and interaction.

- "The instructors put a lot of effort into providing information and communications about the course"
- "Instructors should be more responsive to students by replying to emails and answering questions and clarifying information"
- "Loved the video feedback"
- "Instructor was positive with feedback"

Video content

Students and faculty overall believe that effective use of video content is important to the course experience. In addition to student preferences for course welcome videos and content videos,

The difference in mean scores on these items reflects a slightly stronger agreement among faculty in the use and presentation of video content. The use of video content was not viewed as overwhelming, in either recording videos for the faculty or viewing the videos for the students. The qualitative data about use of video provided further insight into how nursing faculty can continue improving their creation and curation of content in their courses. Content-related video instruction was the largest theme in the student data regarding how to improve online videos, as noted by the following quote.

"I feel there should be more videos with the course to present content. The material is quickly presented with little to no explanation of key concepts. Rarely do the instructors provide "real world" examples that allow the student to apply the knowledge to actual examples. I feel the online experience should somewhat emulate the classroom experience; providing more than a topical outline/discussion is key."

Faculty training that is focused on how and when to best use video tools within the LMS may serve as one way to maximize the use of multimedia to help students achieve their learning outcomes. Another student commented that "video lectures were very helpful and very important in helping me to learn." On the faculty side, one participant noted, "Videos introducing assignments with the instructor's face included seems to drop stress levels of students."

Technology was also incorporated into the design of the college-level course template by including prompts for faculty to upload videos. Creating opportunities for different types of technology can also assist all students, empowering them to self-regulate (Sinclair et al., 2017; Wu et al., 2018). Providing feedback using technology is another distinct way to engage students (Decelle, 2016). Thus, course design helps to maximize course structure impacting overall navigation by faculty and students and alignment to universal standards, as seen in meeting the Quality Matters rubric (Lancaster et al., 2019). Faculty can also participate in additional training sessions and courses to enhance their use of video technology, but they are not required.

We can affirm that our participants positively responded to any form of video content provided. In fact, our survey indicated the desire for more videos throughout each course across the curriculum and among the various degrees. This point is further exemplified in the literature but is more highly discussed among those courses offering acquired skills ranging from mathematics to pre-licensure nursing programs (Beisiegel et al., 2018; Hadi, 2019; Stone et al., 2020). Faculty can use this information to improve their own technology needs to incorporate in future assignments or coursework.

As faculty transition curriculum to online learning or simply enhance their instruction with more technology, the creation and use of video content should be a priority competency in professional development. Beisiegel and colleagues (2018) suggest that faculty who are self-

aware of their own teaching strategies and analyze their video instruction are more likely to increase their knowledge and student learning opportunities. Furthermore, it increases the probability that a variety of learners will critically think through the material, thus asking more questions with challenging concepts, thereby increasing overall engagement (Haidi, 2019) and student-centered approach (Decelle, 2016).

While most of the literature focuses on the application of video content in a clinical or applied skill circumstance, assumptions can also be applied to theory courses as clinical skills are typically influenced in part by theory or concept-based applications. Therefore, all courses, even those with assignments predominantly centered around writing or testing, could equally benefit from video content. While video content is highly encouraged, the integration of this technology is solely reliant on the faculty development itself.

Determining Changes to Online Courses

Personal background or professional training can affect how faculty design and deliver their online courses. It is important to provide a format that intentionally demonstrates consistency for both faculty and students alike. Our college of nursing implemented an ad hoc committee to assist in creating a basic structure and consistent course design path. Our goal was to determine whether the course design was easy to access given that it was built using a standard Canvas template and how important the tools in the course were for students and faculty. While faculty can still incorporate personalization into the course, the basic structure includes a universal *Start Here* module across sites in the LMS that incorporates fundamentals needed for any course, such as college of nursing and university policies, writing assistance, access to student service faculty contact, the syllabus and course schedule. Creating a consistent approach to the design helped reinforce survey results that consistency among courses was still a priority among students and faculty.

The ability to offer course design in a consistent manner can help ensure various Quality Matters standards are met, but when course material is presented consistently over time, the efficacy of the course may also be positively influenced (Baker et al., 2020). Navigating courses that are all different may thus have a negative impact on the student's ability to learn and the faculty's ability to teach if approaches are haphazard in design (Ralph et al., 2017).

Delivery of assignments is a high priority among students. Variation in learning strategies that appeals to multiple learners and desire to have prompt feedback on assignments is highly representative of our student cohort. The top themes of *course design consistency*, *clear instructions and expectations*, and *more instructor engagement* underscore this ideal. Mahasneh et al. (2021) found that the transformation of information is best applied when the instructor develops an initial assessment of student learning at the beginning of each course to ensure faculty gather information to better serve students' needs. Progression through the nursing program (Mahasneh et al., 2021), advancement in degree (Gonzales et al., 2017), and generational differences (Blevins, 2021) are factors that impact students and the different ways they approach learning. Creating a culture of lifelong learning is best achieved when a variety of methods match the needs of the learners (Angeline & Ranadev, 2018).

Limitations

With the switch to remote and online learning that occurred across the nation and at our institution, students who were already in an online learning program felt little impact with course changes. However, we did send this study to students at all levels of the curriculum (fully online courses, blended courses, in-person courses) to determine any significant differences. The lack of

undergraduate participation in our study makes it difficult to determine specific changes needed in courses tailored to undergraduate nursing students. Therefore, undergraduate students may not have felt compelled to answer the questions related to a survey since their courses are not exclusively online. Likewise, distribution of surveys was also near the end of the term when other course evaluations were due, possibly contributing to the lack of participation by this cohort.

Due to the large nature of our program enrollment, course design is managed by one coordinator, while many faculty members facilitate the daily interactions and grading of course sections. Specifically, in our study we know that in 2019 21 of 29 faculty respondents held a coordinator role. Therefore, our organization of coordinator structure limits deviation from overall course design or technology implementation, thereby maintaining more consistency in format and design. This finding is significant as it may limit the lack of consistency felt among faculty (coordinator) respondents because their priority is to maintain course consistency among multiple sections of the same course. Transferability of results to other smaller colleges of nursing may be limited if individual sections are designed independently of a course coordinator overseeing course duplication.

When inquiring about the timing of feedback received, there was some drastic variation in responses, causing us to evaluate the wording and perspectives. While we assume that most faculty and students would consider feedback in regard to assignments and grading, there is an uncertainty that it might also be related to addressing questions either in the course or via email. If administered again, this question would need to specifically address this issue due to the variability in responses.

Another limitation noted relates directly to the LMS training prior to taking the survey. The initial training orientation to the learning management system is an additional contextual factor that differentiates faculty and students. Basic training on the LMS is required of anyone teaching a course at the university, regardless of instructional modality. Faculty learn the basic features of the LMS as they perform required practice activities assessed by staff at the teaching and learning center. Part of this basic training includes how to work with suggested course templates, which are designed to help faculty become confident in using the LMS tools. Although students are highly encouraged to participate in a self-paced LMS orientation training, accountability of training is self-regulated. Students are provided with resources and guides within each course site for how to use the LMS and are provided access to the 24/7 help desk from Canvas should they encounter issues needing assistance. Our survey data may be indirectly affected by these differences between faculty and students in LMS training and familiarity. Thus, required training for students may be something to consider prior to the first day of class.

Conclusion

Our survey demonstrated that consistency and use of technology should be of the utmost importance when designing curricula for all students. As we navigate our way through a highly advanced, technology-driven world, faculty must embrace this need with creative ways to engage students, encourage critical thinking and empower students with the tools to successfully master learning outcomes. Course layouts should incorporate consistency in structure, high standards of transferability semester to semester, course to course, and offer a variety of teaching strategies appealing to reach and engage all learners. Additional areas of need expressed by students include the use of video technology throughout the learning process. Offering instruction using multiple strategies will create opportunities for learning for a variety of learners. In a world where technology is moving at a fast pace, it is imperative that students can access learning from

a variety of sources. Thus, integrating technology into the curriculum meets the needs of diverse students. As advances in our technology occur, and shifts to our classroom environments change, colleges of nursing should consider increasing training for both faculty and students.

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Author Notes

Taralyn McMullan
https://orcid.org/0000-0001-6182-946X
University of South Alabama
tmcmullan@southalabama.edu

David S. Williams
https://orcid.org/0000-0003-4457-2505
University of South Alabama
dwilliams@southalabama.edu

Yolany Lagos Ortiz
https://orcid.org/0000-0003-0172-7888
University of South Alabama
yll1721@jagmail.southalabama.edu

Jackie Lollar
University of South Alabama
jmlollar@southalabama.edu