



University Center for
Assessment, Teaching
& Technology

D2L BRIGHTSPACE STUDENT SURVEY

DATA REPORT



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ABSTRACT

This institutional assessment project reports findings from 6,998 student responses to the D2L/Brightspace survey delivered in Fall 2024. It also summarizes findings from 25 students who were interviewed to gain insight into the University of Arizona student’s experience using the D2L Brightspace Learning Management System. Findings revealed how different groups of students engaged with the online learning platform, and how each group valued the learning tools provided within the learning management system (LMS). This investigation uncovered several main themes, including Consistency in Platform Implementation, Grade Calculation Clarity, Engaging and Personalized Interaction, and Effective Use of External Learning Tools (ELTs). Overall, students reported a strong desire for consistency in course design, noting that varying structures and tools used across courses leads to confusion and inefficiency. They also emphasized the importance of transparent grade calculations and timely feedback, expressing frustration with hidden or incomplete grade information. Furthermore, students desired direct, meaningful interaction with instructors and peers. They expressed their preference for clear, actionable feedback, personalized learning experiences, and more opportunities for synchronous discussions, while expressing frustration with inconsistent communication and forced group work. Finally, while students recognized the value of well-integrated ELTs, they reported significant challenges and added stress when ELTs are not seamlessly integrated into D2L Brightspace. In this paper, we explore these findings and offer recommendations for instructors to improve their students’ D2L Brightspace learning experience.

PURPOSE & BACKGROUND

The Brightspace Student Survey is one effort within the larger Brightspace Next initiative. This project included a campus wide student survey and a focus group investigation. The survey and focus groups, conducted during the fall 2024 semester, were a collaborative effort between UCATT and the Office of Assessment & Research to gain insight into University of Arizona students’ preferences and needs regarding their use of D2L Brightspace. Findings will guide UCATT’s development of trainings and methods for instructors to optimize their use of the LMS for the benefit of their students.

METHODS

From September 23 to October 25, 2024, an 18-question student survey was distributed directly to University of Arizona students enrolled at the University of Arizona as of September 17th in programs which use Brightspace as the LMS¹ . Throughout October and November of the 2024 fall semester, five 1-hour focus group sessions were also conducted to further explore the student experience with D2L Brightspace. The survey and focus groups asked students to reflect on their use of D2L Brightspace in their courses.

INSTRUMENT DEVELOPMENT

The survey and focus group items were developed to answer the following research questions:

RQ1: How are students currently using D2L Brightspace?

How do students describe their experiences with D2L Brightspace?

RQ2: What can instructors do to make the LMS easy for students to use?

What adaptations to D2L Brightspace settings could enhance the student experience?

What training strategies can we propose to help instructors use D2L Brightspace more effectively?

Survey Development

During the spring of 2024, the survey development team drafted language for the survey items, implementing best practices from the literature (e.g, Sriram, 2014) and consultation with experts at the Office of Assessment & Research. The survey consisted of three sections, including Role and Engagement with D2L Brightspace, Familiarity with D2L Brightspace, and Course Experience with D2L Brightspace [See Appendix B1 for survey items].

¹ Email invitation list included N=50,663 students.

The team then shared the survey draft with experts across campus and integrated feedback into a second survey draft. Subsequently, they designed the survey in Qualtrics and conducted three rounds of student focus group testing to obtain student feedback on the functionality and clarity of language within the survey.

During the summer of 2024, Assessment and Research organized and distributed a pilot survey to all students enrolled in for-credit summer courses that utilized D2L Brightspace as the LMS. The pilot survey opened on June 17th and closed on July 2nd, with a reminder sent to all students who did not complete it on June 25th. It was sent to 2629 students and 84 students responded to at least 1 question (3.2% response rate). No incentives were associated with completion of the pilot. The survey was revised a final time in the fall of 2024, based on findings from the pilot survey.

Student Focus Group Development

The Brightspace Student Focus Groups followed a protocol based on current literature (e.g., Krueger, 2014) and guidance from the Office of Assessment & Research. The focus group team then drafted a list of interview questions based on the survey items and research questions. Five sessions were scheduled between October and November, offering both virtual and in-person attendance options.

Each focus group session lasted for approximately one hour and consisted of a variety of question prompts read by the session facilitator or co-facilitator. In Zoom sessions, participants were encouraged to unmute their mics to describe their responses, or to use the chat function if that was more comfortable for them. In both Zoom and in-person sessions, participants were invited to recount their experiences, provide examples, contribute to an anonymous Padlet, and discuss with other participants. A notetaker from the Focus Group team kept notes during each session and utilized Zoom automatic captions for transcription. See Appendix C2 for a description of the session protocol and question prompts.

Recruitment

The survey was sent to all students, at all campuses and academic careers (n=50,663) enrolled as of September 17, 2024 in credit bearing courses that utilized the D2L Brightspace LMS. This included full time and part time students, as well as online/distance/remote students, on campus/iCourse students, international students, UGRAD + GRAD

students, PHARM & LAW students. The sampling frame excluded Veterinary and College of Medicine Students, non-degree seeking and community campus students, as well as students from UAGC. Invitations to participate were sent directly to individual students via mass Trellis emails. UCATT also publicized the survey through newsletters, and word of mouth. All students who completed the survey received a 20% coupon to the Bookstore (usable only for insignia items, or A block items, and with several additional exclusions). They were also entered into a raffle for one of five \$25 Amazon gift cards. The survey ran from September 23 through October 25, 2024. Primary invitations were sent on Monday, September 23 via Trellis, with reminders on October 7th and October 21 to nonrespondents.

Focus group recruitment occurred through systematic email communications via the Trellis platform, targeting survey respondents who indicated interest in participation. The registration process included participant consent for session recording and provided access to session information upon confirmation. Students were offered a 20% coupon to the University of Arizona Campus Store and a \$10 Starbucks gift card.

PARTICIPANTS

Survey responses were matched to enrollment records at fall census date 2024 resulting in 6,998 respondents for a response rate of 13.8%. Most respondents selected the singular role of student, while 372 respondents also marked an instructional role and 253 marked an additional staff role. The table below shows the survey respondents compared to the comparison population at the 2024 fall census data (Sept. 16, 2024) which was largely aligned. Female students were overrepresented in respondents for all careers, which is common for campus surveys. International students were slightly overrepresented among graduate/professional students. Among undergraduates, Pell recipients and STEM field undergraduates were also slightly overrepresented.

Additionally, 25 students participated in 5 scheduled focus group sessions during the Fall 2024 semester. Participants included undergraduate and graduate students at the University of Arizona from both main campus and fully online students. The demographic distribution of focus group participants can be found in Table 2 below.

Table 1. Sample Size and Responses

	Survey Respondents (N=6,998)		Comparison Population Fall 024 Census (N=50,653)	
	Undergraduate (N=5,525)	Graduate & Professional (N=1,473)	Undergraduate (N=41,095)	Graduate & Professional (N=9,568)
Campus				
Main	85%	69%	83%	63%
Online	12%	24%	16%	30%
Distance/South*	3%	3%	1%	3%
PHX	-	4%	-	4%
IPEDS Ethnicity				
African American	4%	2%	5%	4%
American Indian	2%	1%	2%	2%
Asian	7%	5%	5%	6%
Hispanic	32%	17%	29%	19%
International	6%	29%	4%	20%
Pacific Islander	<1%	-	<1%	<1%
Two or more races	5%	3%	5%	4%
White	42%	37%	48%	42%
Unknown/Other	3%	5%	2%	5%
IPEDS Gender				
Female	66%	62%	56%	54%
Male	34%	34%	44%	44%
Unknown	<1%	4%	<1%	2%
STEM Field Flag				
STEM Field	42%	38%	36%	37%
Non-STEM	58%	62%	64%	63%
First Gen (UGRD only)				
First Gen	34%	NA	NA	NA
Cont. Gen	66%	NA	NA	NA
Pell Grant (UGRD only)				
Recipient	34%	NA	NA	NA
Non-Recipient	66%	NA	NA	NA

*Note: due to rounding, column totals may not sum to 100%. STEM field based on primary major DOE STEM flag in Analytics. *Fewer than 1% of students who responded to the survey were denoted at census as a campus outside the original invite list (community, global direct) were retained for analysis.*

Additionally, 25 students participated in 5 scheduled focus group sessions during the Fall 2024 semester. Participants included undergraduate and graduate students at the University of Arizona from both main campus and fully online students. The demographic distribution of focus group participants can be found in Table 2 below.

Table 2. Focus Group Demographics by Career Level, Academic Program, and Campus

	Undergraduate	Graduate
Academic Program		
Applied Science & Technology	0	1
Business/Management	2	3
Data & Information Sciences	1	4
Fine Arts	1	0
Graduate Interdisciplinary Program	0	1
Humanities	4	0
Medicine & Pharmacy	1	1
Non-Degree Seeking	1	0
Science	2	1
Social & Behavioral Science	1	1
Campus		
Main	12	10
Online	1	2

DATA ANALYSIS PROCEDURE

Survey Quantitative Analysis

Survey Sections “Familiarity with D2L” and “Course Experience with D2L” were analyzed to answer RQ1(How are students currently using D2L Brightspace?). The Survey Analysis team first ran descriptive statistics on the total pool of respondents. After running these initial tests, the data was disaggregated into the following demographic categories:

- › Undergraduates/Graduates
- › STEM Academic Programs
- › Campus (Main, Online, and Distance Education)
- › First Generation/International Students
- › Pell Grant Recipients

Descriptive statistics were then analyzed for each demographic category. For items with categorical responses (i.e., Q2.1-Q3.3), response frequencies and percentages of respondents were calculated. Additionally, the Survey Analysis team ran ANOVAs for items utilizing ratings (i.e., Q3.4 and Q4.1- Q4.6) to determine course experience and potentially helpful D2L Brightspace tools to see whether there were any statistically significant relationships between the different demographic categories with regard to how they value the tools provided on the LMS platform. Finally, we performed a series of bi-variate and partial correlation analyses, which were focused on the correlational means due to the categorical nature of the demographic variables. Through these correlation analyses, overlapping response trends for demographic categories were revealed, and student profiles emerged.

Survey Qualitative Analysis

A team of five investigators applied a grounded theory approach to analyze three of the four open answer survey questions (the process for analyzing the fourth open answer question, Q4.7, is explained later in this section). These three open answer questions were:

- › (Q3.5) Is there anything else you would like to say about D2L tools?
- › (Q4.4) Have you had to create accounts or register for any course tools that require setting up an account separate from your D2L login? If so, how has this impacted your learning experience?
- › (Q4.8) Do you have any other comments about your experience using D2L as a student?

The analysis for these questions began with a round of open coding to develop a set of initial codes. During a second round of axial coding, investigators used MAXQDA software to analyze the relationships between codes, resulting in the following code categories: D2L Platform, External Learning Tools (ELTs), and Instructor Implementation. During this phase of analysis, raters refined the codes and updated their codebook. Upon completion of axial coding, two reliability coders independently analyzed 20% of the qualitative data (O’Connor & Joffe, 2020), and the percentage of intercoder agreement was obtained. Any codes with an intercoder agreement and/or Kappa coefficient below 80% were discussed and updated according to group consensus (Graham, et al., 2014). During the final selective coding phase, investigators again used MAXQDA to explore themes that were relevant to answering the research questions.

Responses to the fourth open answer question, which was a fill in the blank question (Q4.7 “If I could choose one tool to be used more effectively in my D2L courses, it would be _____.”) were analyzed using a frequency count to find the most reported tool categories.

Focus Group Qualitative Analysis

Qualitative analysis from the focus groups sessions was conducted using MAXQDA software. Each transcript was coded using the shared codebook developed by the Survey team. The Focus Group team created several additional codes to account for instances that were not represented in the existing codebook (see Table 3).

Table 3. Codes Specific to Focus Group Analysis

	Description	Example Instance
Organization preferences (Instructor Variation)	Student expresses a certain preference for how content and/or course site is organized	“...having it in units is nice. But also I don’t remember by unit, I remember like...what week was this introduced”
Functionality - Negative Navigation (renamed)	Student expresses difficulty navigating the Brightspace platform	“finding documents or reference materials for assignments can be difficult. It should be attached in the assignment section itself”
Seldom used tool (Struggle)	Student expresses that their instructor(s) does/do not use a certain tool in Brightspace	“no, the professors haven’t used awards”
Student Support Needed (Struggle)	Student expresses needing more support/more information about how to use a tool or element of Brightspace	“professors like look at all these fancy little tools, but I don’t know what any of them do you know... there’s no training on it”
Pulse App - Info Needed (Struggle)	Student expresses not knowing about Pulse	“I did not know about like...pulse, specifically which,...that would be a great option”
Pulse App - Negative Experience (Struggle)	Student describes negative impact the Pulse app has had on their experience with Brightspace	“I’ve also had, like the pulse app. Send me multiple notifications for like the same assignment. but it’ll just be saying like the same thing over and over again”
Pulse App - Positive Experience (D2L Platform)	Student describes a positive impact that the Pulse app has on their experience with Brightspace	“the app is ridiculously good. The notifications pop up. The grades show up really instantly...Once I started using the app, I actually think a lot more on track and I saw announcements a lot quicker than through email”

FINDINGS

RQ1: How are students currently using D2L Brightspace?

Survey respondents overwhelmingly noted that they used email (72%), Brightspace notifications (71.4%), and announcements (66.5%) most frequently of all the D2L Brightspace tools to obtain important course information (See Table 4). This finding remained consistent across demographic categories. Regarding the perceived importance of D2L Brightspace tools, students valued the assignment submission portal, gradebook, and quizzes/exams most. There was also general agreement that most of their D2L Brightspace courses were effective in terms of course organization, course content access, and D2L Brightspace tool use, although students in Online programs and Multigenerational International Students rated these elements significantly higher than those in Main and Distance Education programs. On the other hand, most students expressed general dissatisfaction with their instructors’ implementation of group work on the D2L Brightspace platform.

Finding 1: How Students Obtain Course Information

More than half of respondents selected email, Brightspace notifications, and announcements as the predominant LMS elements that students use to obtain course information overall (See Table 4).

Table 4. Q3.3 Which tools do you use on Brightspace?

Brightspace Element Used	Count of Students Using Tool (n=6942)	Percentage of Respondents (%)
Email	5,006	72.1
D2L notifications	4,959	71.4
Announcements	4,614	66.5
Assignment Section	3,482	50.2
Pulse App	2,479	35.7
Word of mouth from other students	1,867	26.9
CatCloud portal	507	7.3
Other	46	0.7

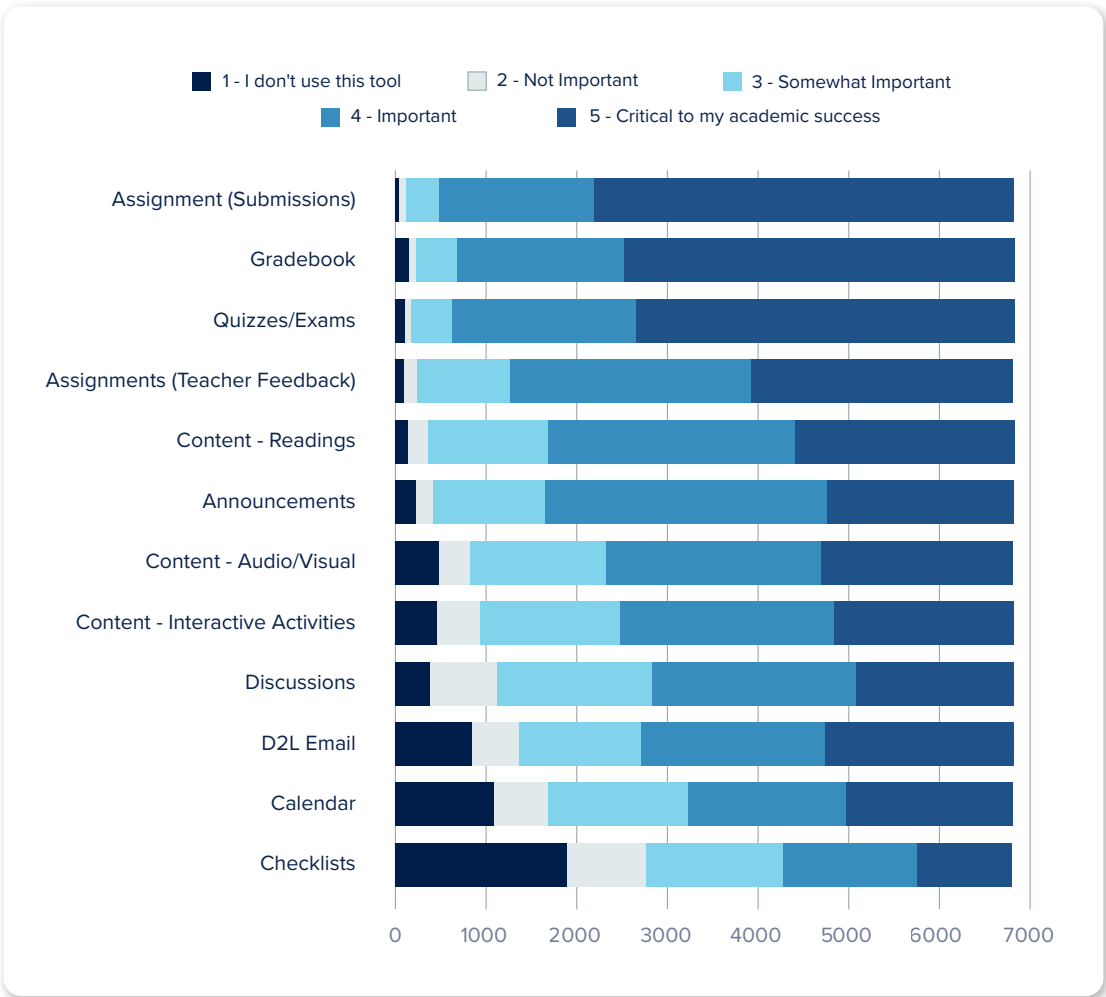
**Note: Because this was a “select’ all that apply question, the total number of responses exceeds total number of respondents.*

While most student demographic groups reflected the overall trends in tool use seen in Table 4, there are a few notable differences. Graduate students (18.7%) use the Pulse app less than undergraduate students (42.0%). Online program students (3.8%) utilize word of mouth from other students significantly less than other campus groups (Main campus, 30.3% Distance campus, (32.9%). First-generation international students (17.3%) also use word of mouth from other students less than their counterparts.

Finding 2: D2L Brightspace Tool Importance

When asked to rate the importance of the D2L Brightspace tools for their academic success (5-point scale from 1 - “I don’t use this tool” to 5 - “Critical to my academic success”), assignment submission, gradebook, and quizzes/exams were the highest rated tools. In fact, 68% of students rated assignment submission as critical to their academic success, while 63% of students rated gradebook as critical, and 61% rated quizzes/exams as critical.

Figure 1. Frequency Distribution of D2L Brightspace Tool Use Importance



Q3.4 Which tools are most important to your overall academic success across all your courses?

Each demographic group followed this general pattern, although there are statistically significant differences between. For example, students in Online programs rated most tools as more important than students in Main or Distance campuses (See Table 5).

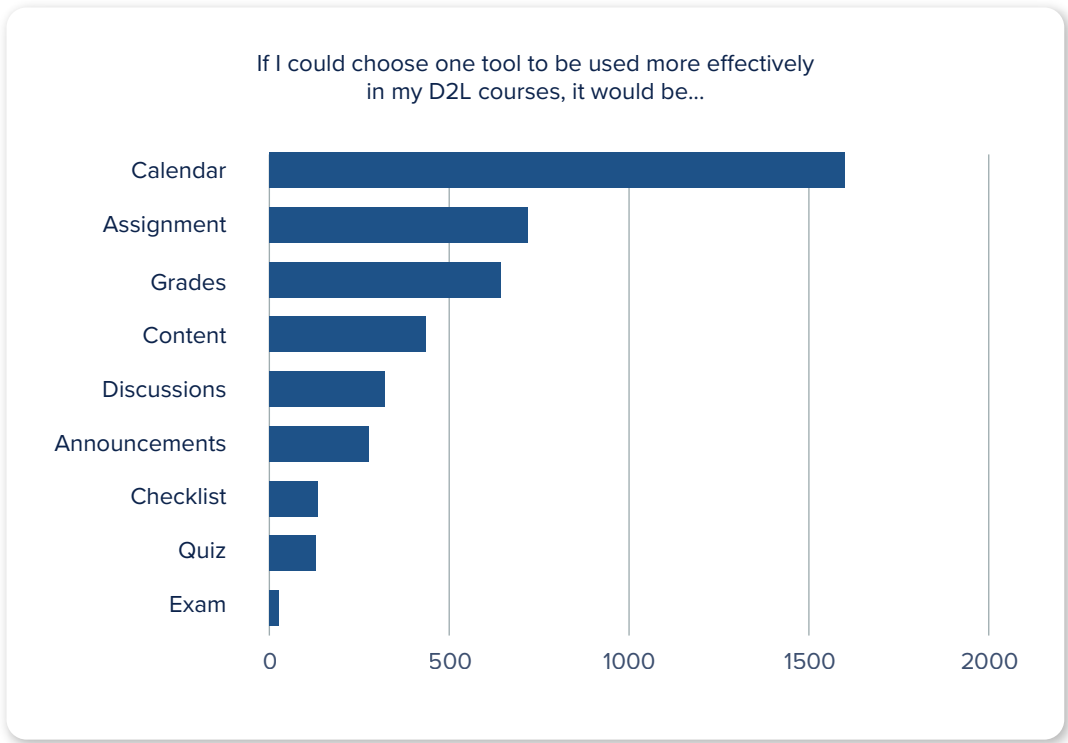
Table 5. Tool Use Importance Per Campus

Campus (n=6400)

D2L Tool	Campus Means			F value	p-value
	Main n=5353	Online n=966	Distance n=81		
Assignments (Submissions)	4.58	4.67	4.63	4.39	.002
Gradebook	4.48	4.50	4.69	4.39	.002
Quizzes/Exams	4.47	4.55	4.41	3.78	.005
Assignments (Teacher Feedback)	4.16	4.43	4.24	22.49	<.001
Content – Readings	3.97	4.37	4.01	37.25	<.001
Announcements	3.96	4.04	4.24	5.86	<.001
Content - Audio/Visual	3.67	4.37	3.95	76.75	<.001
Content - Interactive Activities	3.65	4.15	3.99	38.43	<.001
Discussions	3.55	4.02	3.77	32.33	<.001
D2L Email	3.58	3.63	3.65	1.03	.39
Calendar	3.35	3.61	3.40	7.52	<.001
Checklists	2.74	3.34	3.15	38.25	<.001

Students across demographic groups ranked the Calendar second to lowest of all the tools. However, when asked which tool they wished would be used more effectively, a majority of responses included “Calendar” for this fill-in-the-blank question (See Figure 2 below). There were also 222 qualitative survey responses mentioning the Calendar tool.

Figure 2. Frequency Distribution of D2L Brightspace Tool Effectiveness



Finding 3: Course Experiences

Students rated eight statements regarding the effectiveness of course organization, course content access, and D2L Brightspace tool use in their classes (4-point scale; 1 - None of my D2L courses to 4 – All of my D2L courses). Responses indicate most courses are effective in these eight areas (See Table 6A).

Table 6A. Overall Course Experience with Brightspace

Item	Statement	Mean
Q4.1 n=6750	I generally have no trouble finding my teacher’s feedback in _____.	3.27
Q4.1 n=6750	The course site is regularly updated throughout the course to ensure all materials are current and accurate in _____.	3.26
Q4.1 n=6750	I have no problems accessing course content (for example, course links work, e-textbooks and course videos are viewable) in _____.	3.25
Q4.2 n=6633	Instructions for accessing course content (for example, assignments, lectures, e-textbooks, course activities) in D2L are clear and easy to follow in _____.	3.26
Q4.2 n=6633	Instructors communicate effectively with me using D2L tools like discussion forums, grading feedback/rubrics, and announcements in _____.	3.21
Q4.1 n=6750	Instructional materials are organized logically in_____.	3.16
Q4.2 n=6633	It is easy for me to plan my coursework using elements in D2L such as course calendar, announcements, and/or syllabus in _____.	3.09
	I receive instructor feedback that is detailed enough for me to identify ways to improve my learning experience in _____.	3.02

However, students in online programs rated seven of the eight elements higher than students in Main Campus and Distance Education programs, indicating these course elements occurred in a majority of their courses; the item regarding the course site being updated, however, was rated similarly by all three campus programs (see Table 6B). Multigenerational International students rated all eight items higher than the other generation/international groups.

Table 6B. Course Experience with Brightspace by Campus

Statement	Online	Main	Distance
I generally have no trouble finding my teacher’s feedback in _____.	3.41	3.25	3.36
Instructions for accessing course content (for example, assignments, lectures, e-textbooks, course activities) in D2L are clear and easy to follow in _____.	3.40	3.23	3.25
Instructors communicate effectively with me using D2L tools like discussion forums, grading feedback/rubrics, and announcements in _____.	3.40	3.17	3.36
I have no problems accessing course content (for example, course links work, e-textbooks and course videos are viewable) in _____.	3.37	3.23	3.14
The course site is regularly updated throughout the course to ensure all materials are current and accurate in _____.	3.36	3.24	3.26
Instructional materials are organized logically in_____.	3.35	3.12	3.12
It is easy for me to plan my coursework using elements in D2L such as course calendar, announcements, and/or syllabus in _____.	3.35	3.06	3.20
I receive instructor feedback that is detailed enough for me to identify ways to improve my learning experience in _____.	3.21	2.99	3.18

RQ2: What can instructors do to make the LMS easy for students to use?

Findings reveal that, while a majority of students are satisfied with the organization of their courses, many desire greater consistency in course organization and design. Design-focused inconsistencies across and within courses lead to confusion and hinder academic performance for some students. Also, while a majority of students expressed satisfaction with instructor feedback and communication, many seek more transparency in grading, expressing frustration over the lack of accessible, cumulative grade information. Students prefer synchronous discussions and clear, actionable feedback, rather than forced, unproductive discussion board posts. Additionally, although external learning tools (ELTs) can enhance the learning experience, many students are frustrated by their lack of integration with D2L Brightspace, technical issues, and the extra complexity of managing multiple logins and accounts. Overall, students emphasized the need for logical organization, transparent grading, personalized interactions, and effective use of ELTs to support their learning experience.

Finding 1: Consistency in Platform Implementation

Analysis of survey and focus group data revealed a central theme of “consistency,” demonstrated by the desire for course content to be organized, designed, and formatted consistently within and across courses, as summarized in the survey response below:

It can just be hard to navigate things when everything is labeled differently or found in different spaces depending on the class.

In the survey qualitative data, “Course Design Consistency” was coded 211 times (See Appendix B2), and the Likert based responses in Figures 3 and 4, below, also showed that students highly value consistency in course design. A similar response pattern was found in all 5 focus group sessions. During these sessions, students often reflected on topics related to course consistency, such as the use of instructional tools, course organization, and course navigation in the LMS.

Figure 3. Q4.5 Course Design Consistency (n=6496)

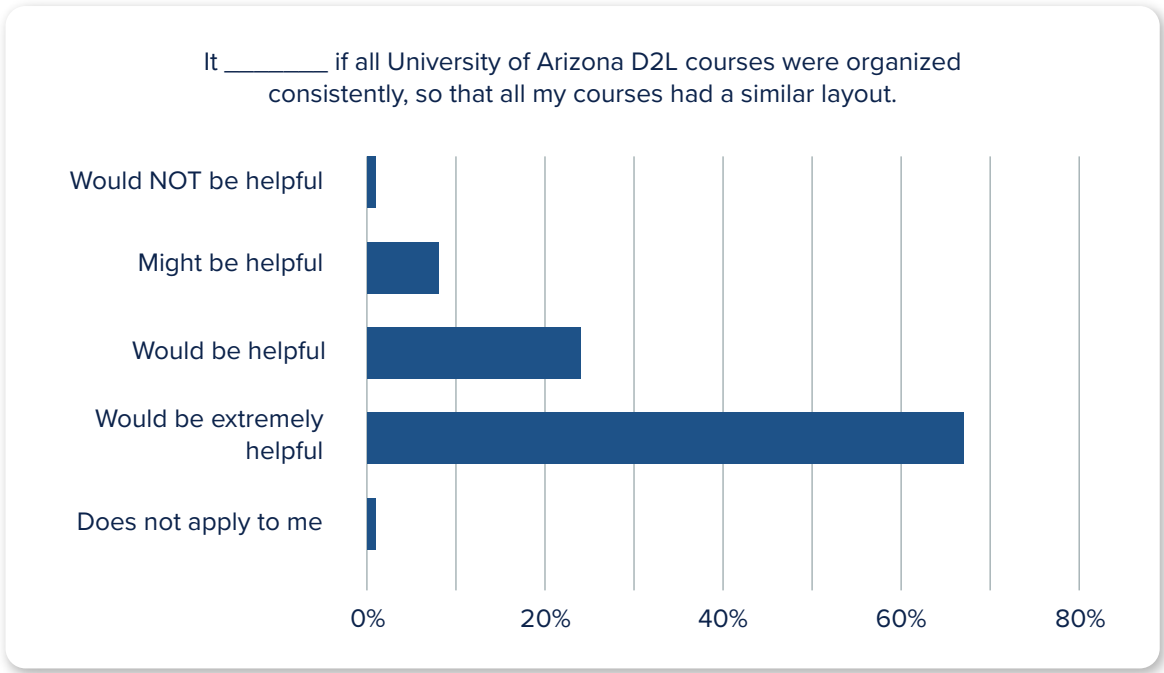
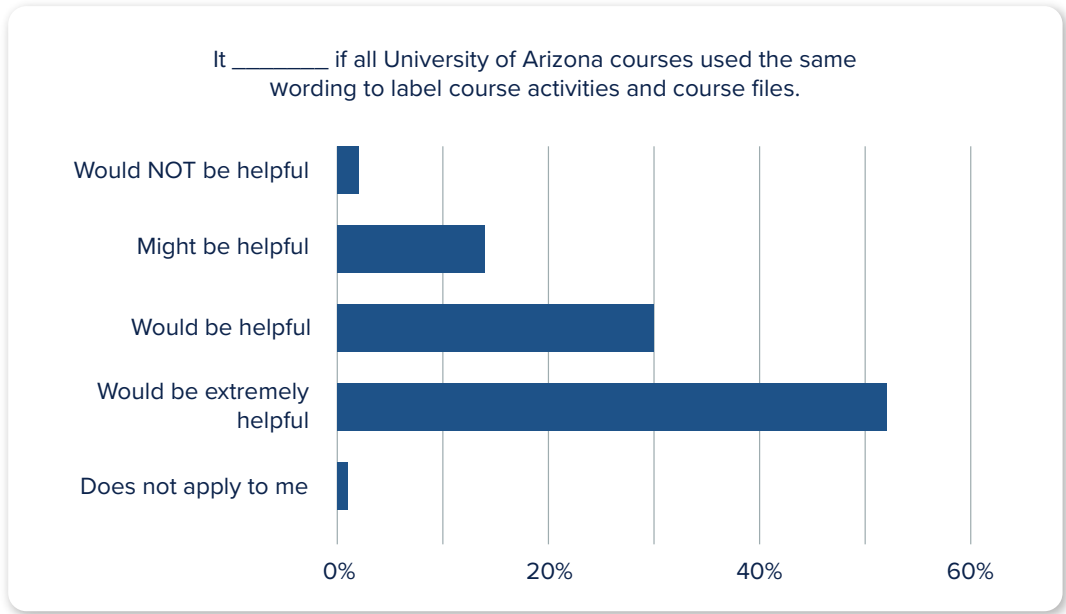


Figure 4. Q4.5 Consistent Labels



Although requests for consistency were strong, Likert-based responses demonstrated that a majority of students were satisfied with the way their courses were organized (see Figure 5) and were able to effectively plan their coursework using D2L Brightspace tools (see Figure 6).

Figure 5 . Q4.1 Logical Course Organization (n=6750)

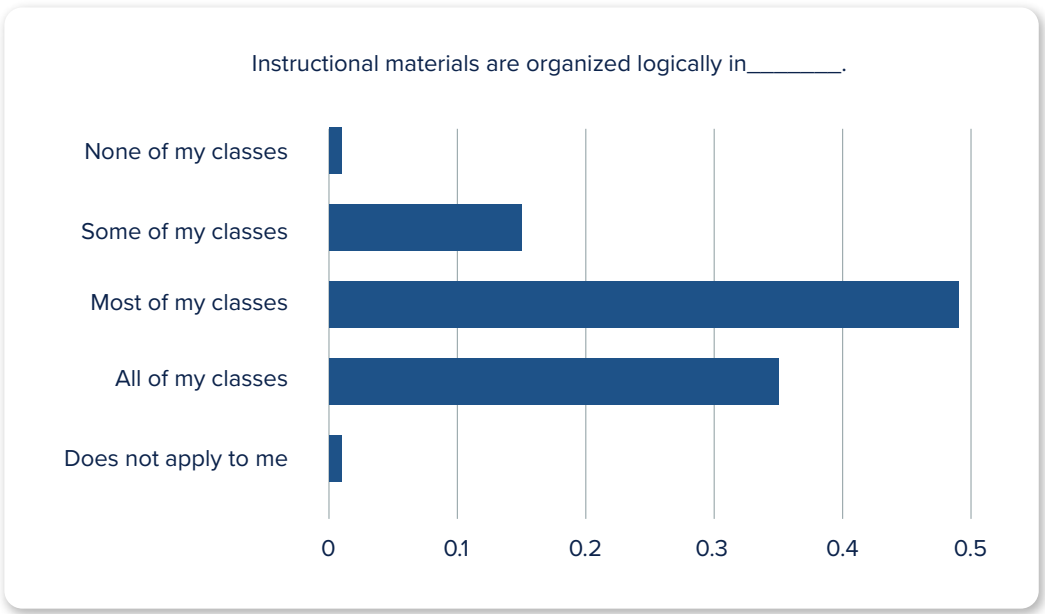
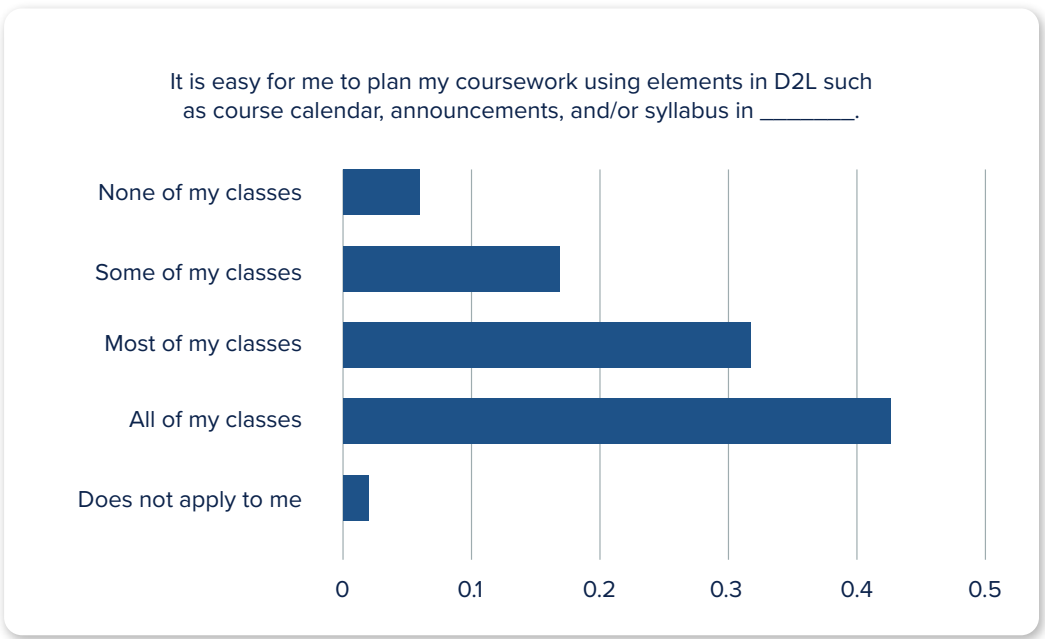


Figure 6. Q4.2 Planning Coursework (n=6750)



Survey respondents and focus group participants alike appreciated well-organized courses, with one survey respondent stating, “I’ve had one class that was beautifully organized and it was AMAZING!” Another reported,

Instructors often use D2L to organize their courses clearly, dividing content into modules or units. This structured approach makes it easier to follow lessons and locate study materials, which is especially helpful when managing multiple courses.

Students in the focus groups expressed appreciation for courses that adhered to a visually consistent template, such as those used by Eller and the School of Law. They appreciated templates used within a single course and consistency of use across multiple courses.

Preferences varied regarding specific organizational styles, such as whether content modules should be arranged by week or by topic, but there was broad consensus on the need for a more standardized Navbar. This included consistent Navbar link and tool names, in addition to uniform placement of links to textbooks. One focus group participant summarized this by saying “I think there is very little standardization. Like all courses have different things at different places. I have 4 courses and all have different tabs.”

In the focus group sessions, students described uncertainty, frustration, and confusion due to the lack of standardization in the look, feel and navigation of course sites, as well as variations in how instructors use specific tools (e.g., Calendar, Content) across D2L Brightspace. In every focus group session, students expressed a desire for increased organizational consistency, as exemplified in this focus group response:

“I think the problem really starts off with when there’s no..., it doesn’t seem like everyone’s using the same template. There’s some ideas where people are using some templates, but...there’s no one standardized template...There’s no standardized look for all the courses”

Students emphasized an acute awareness of the impact of course organization on their academic success. For example, one survey respondent explained that, due to inconsistencies within a specific course, they “would find different deadlines in the grade book and syllabus.” Another student remarked that, due to inconsistencies across courses, “...I find myself missing important information.”

Though the majority of survey respondents expressed satisfaction with their course organization, there were a substantial number of students who reported that inconsistencies in course design required them to adapt to new organizational structures each semester. Some students, such as the survey respondent below, reported that this has negatively impacted their academic performance:

“I understand how to use D2L, however due to every teacher using it differently I have struggled to understand the layout and fallen behind at the beginning of each semester in at least one or more of my classes. I also know many others with this same issue.”

Despite broad agreement that courses are generally well organized, many students’ responses to open-ended survey questions mentioned that it was difficult to find important course information, such as assignment deadlines, instructions, and teacher feedback, because instructors set up their courses so differently. One survey respondent, for example, remarked, “Every semester I have to learn how each professor organizes their classroom page and remember the differences between them.” Focus group students also expressed uncertainty in locating similar course components due to variations in how the Content area

was structured across their courses. The survey comment below emphasizes the frustration that many expressed:

...good luck using D2L to make sense of what is expected of you on a given date. You have to look at the syllabus, hunt through D2L to find where each requirement for the date is, hope the instructor has named the files similarly enough to what they are named in the syllabus and then cross your fingers that you have covered everything. What a hot mess

The calendar tool was a particularly strong source of frustration for many students, who felt that they would greatly benefit if all instructors used the calendar consistently to post assignment due dates and details (e.g., “...if instructors all set up assignments to show up on the calendar it would be very helpful.”). Some explained that their instructors did not use the calendar, gradebook, or other LMS tools, making it difficult for them to keep track of assignments and grades. As one student noted, “[s]ometimes it feels like professors hide assignments and content due in folders that are hard to look for.” Students also acknowledged inconsistencies in instructor communication and engagement across different courses, expressing a desire for instructors to use communication tools, like email, announcements, and the calendar, in a more uniform manner.

Interestingly, while most students strongly requested a standardized approach to course design, there were several who felt that instructors should have autonomy to facilitate a more tailored learning experience. These students recognized that, due to the diverse nature of their courses, forcing instructors to adhere to similar design principles might negatively impact the learning experience. One survey respondent implored, “Please don’t make instructors do everything exactly the same...”. Several others, such as the following commenter, requested a more careful balance of design constraints and freedoms, stating that “Classes do not need to be laid out exactly the same, but it would help a lot if professors all placed content in the same areas.” The survey response below offers a similarly nuanced perspective:

I think requiring all D2L classes to use the same format would not always work just due to the variety of class types. I think a couple things could be standardized, but...giving professors some flexibility as well is a good thing.

Finding 2: Grade Calculation Clarity

Another central theme, grade calculation clarity, emerged through students’ strongly expressed desire for the ability not only to know what their cumulative grade is for each course but also to clearly see how their grades are calculated, and to track and manage their graded assignments. Qualitative survey responses were heavily coded for Assignment Management (n=300, e.g., “Need a page to see all course due dates!!!”) and Grade Transparency (n=171, e.g., “I wish it would tell me my overall grade.”).

In the focus groups, many students reported having to calculate their own Final Grade because their instructors do not release it during the semester. Student responses within this theme emphasized the importance of centralized and transparent cumulative grade information. Survey respondents and focus group students alike emphasized the importance of effective use of the Calendar to communicate due dates. In fact, a concerning number of students reported difficulty tracking their progress throughout a course due to grades not being posted in a timely manner, or the Final Calculated Grade being hidden until the end of the course. Some also mentioned challenges in locating feedback on their activities. For example, one focus group participant explained:

...for most of my classes that I’ve taken over the past few years, I’ve never been able to see what my actual grade is in that class until it’s posted in UAccess like on my transcript. And so sometimes it can be difficult to just not really know how I’m doing, or even if...I’ve missed an assignment because it wasn’t posted in there... the grade book can be tricky because you just can’t really like actually track what your grade is.

Many students reported in qualitative survey responses that they were unable to view their overall grades for a course, or that their teachers did not use the gradebook consistently. One survey respondent declared, “Gradebook NEEDS to show an overall grade! I want to see what I have in the class so far, not just by assignment type.” Comments like this one clearly communicate the desire for a comprehensive view of one’s current grade in the class.

Students further opined that instructor training on effectively using the D2L Brightspace gradebook could improve the student experience. As one survey respondent stated, “I would like if all my professors would show my grade instead of me guessing what my grade is, but I don’t think this is a D2L issue; it’s a professor/instructor one.” Similarly, another

suggested that “[s]ome of the faculty might benefit from some additional training on how to effectively use D2L, as they are keeping grades in a separate spreadsheet and I have no consistent way to track my grades.” These examples highlight a desire for greater clarity in tracking grades throughout the semester and an awareness of the instructor’s responsibility in ensuring grade transparency.

Both survey respondents and focus group participants wanted instructors to provide clear feedback through D2L Brightspace. However, there was a discrepancy between qualitative reporting in the survey and focus groups and Likert-based responses. While 72% of Likert-based survey respondents perceived teacher feedback to be sufficient and easy to locate in most or all of their courses (see Figures 7 and 8), qualitative survey respondents commented (see Appendix B2; Instructor Communication, n=59) that their instructors do not offer sufficient feedback on graded activities (e.g., “...every exam I took, I got a grade but never knew what I was doing wrong.”).

Figure 7. Q4.2 Effectiveness of Teacher Feedback (n=6633)

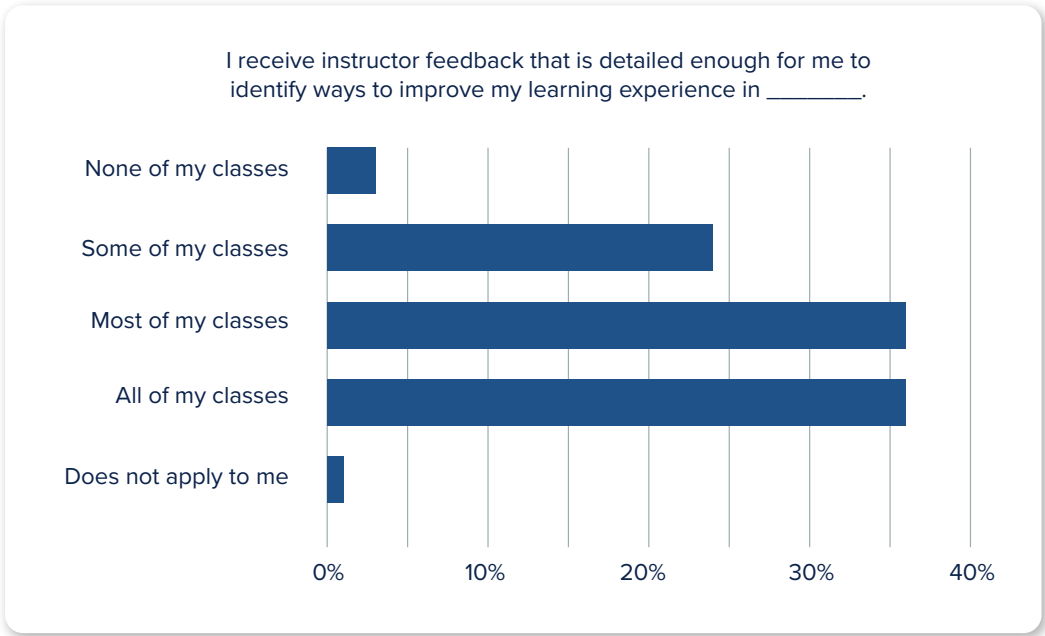
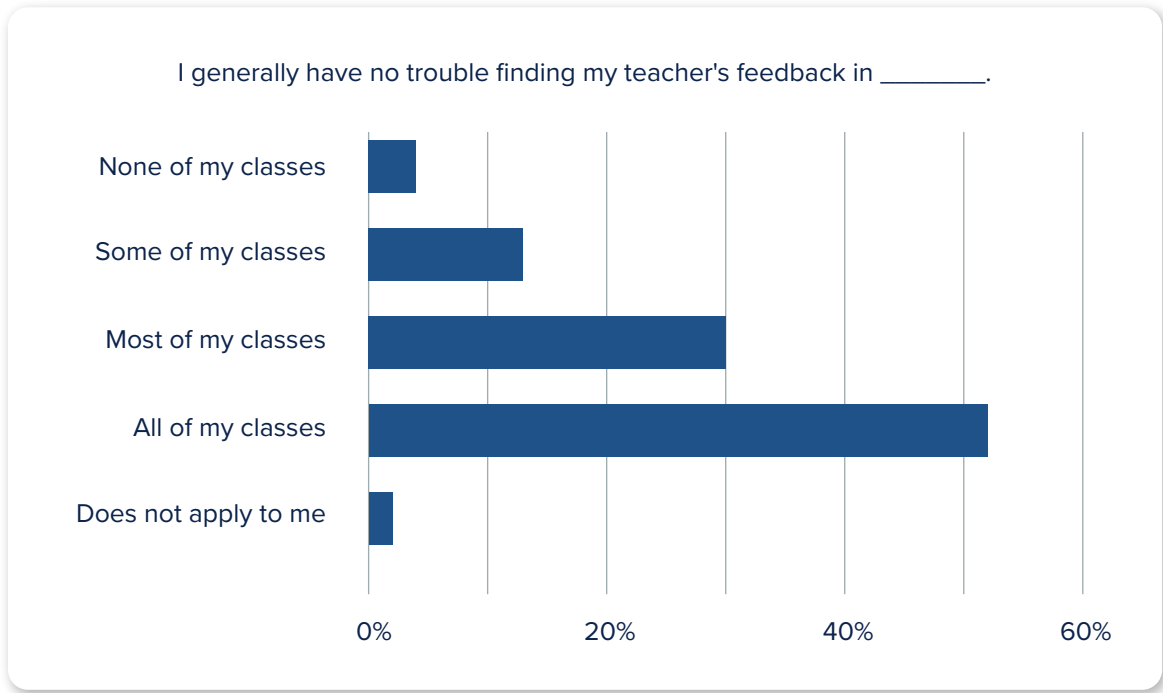


Figure 8. Q4.1 Finding Instructor Feedback (n=6750)



Although 82% of Likert-based responses conveyed that teacher communication in D2L Brightspace was effective in most or all of their courses and 84% claimed that course instructions were clear (see Figures 7 and 8), many student responses to open-ended questions acknowledge that they did not know how to locate their teachers' feedback within D2L Brightspace (e.g., "...it was difficult to find where my instructors left feedback. It seemed like there were multiple, hidden ways to get there."). Some requested that their instructors provide more specific and actionable feedback "so that I could make appropriate corrections to future homework assignments." Focus group participants reported on the inconsistencies in how quiz results are reported, as described by this focus group participant:

I feel like it's different for all of my classes, because after I take some quizzes, it'll...show me the questions with like what I got right and what I got wrong, and then others will just show me the questions again. And then other quizzes just won't show me anything after I take it. So it's just different for each one.

Finding 3: Engaging and Personalized Interaction

While most survey respondents agreed that their instructors communicated effectively and gave clear instructions in most or all of their courses (see Figures 9 and 10 below), students expressed the desire for more direct, meaningful interaction with instructors and peers. As many survey respondents pointed out, this required teachers to possess adequate knowledge to meaningfully implement learning tools to engage students in the D2L Brightspace platform. In qualitative survey responses, Platform Tool Implementation (n=146; e.g., "Not all professors utilize the assignment calendar, and keeping track of due dates other than those in the syllabus can be challenging.") and Instructor Platform Knowledge (n=130; e.g., "...teachers seem to struggle with knowing where they should upload documents and assignments") either bolstered or hindered instructors' ability to effectively engage their students in the coursework (see Table 10).

Table 10. Instructor Knowledge and Tool Implementation

Code	Description	Indicators	Code Frequency
Instructor Platform Knowledge	Instructor's implementation of Brightspace is limited by their knowledge of the platform	Computer skills, know how, ability	130
Platform Tool Implementation	Instructor approach to tool implementation	Tool selection, setup quality, consistency of use across course sites	146

Figure 9. Q4.2 Course Instructions (n=6633)

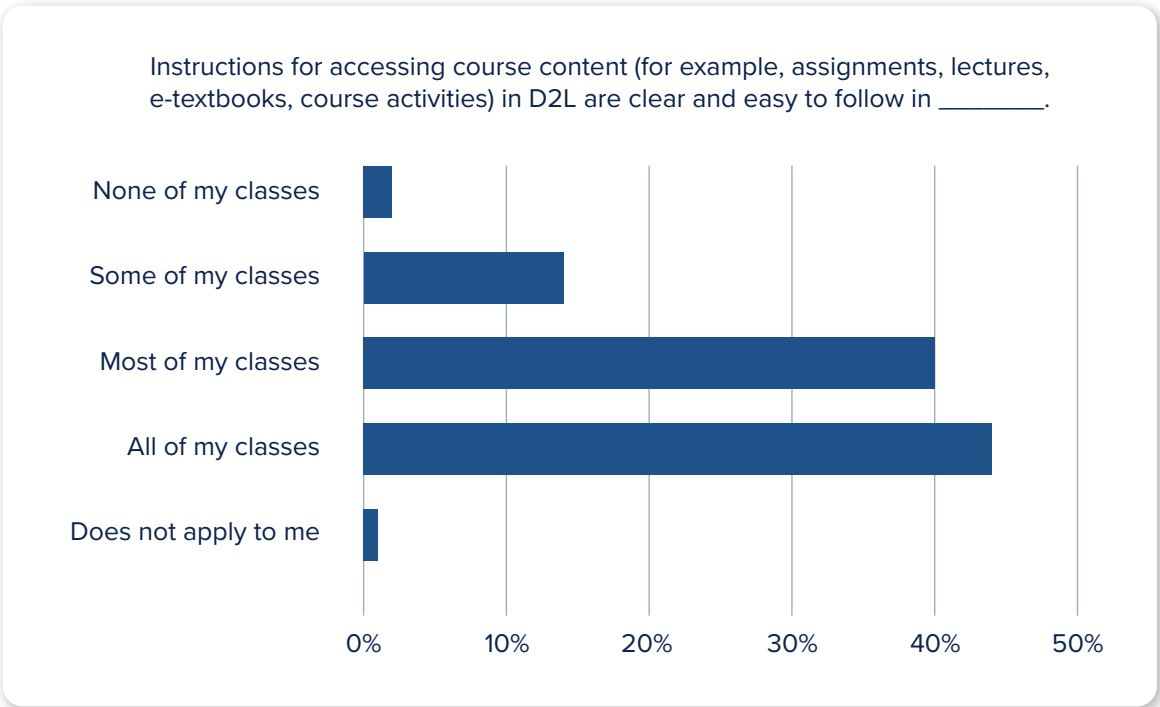
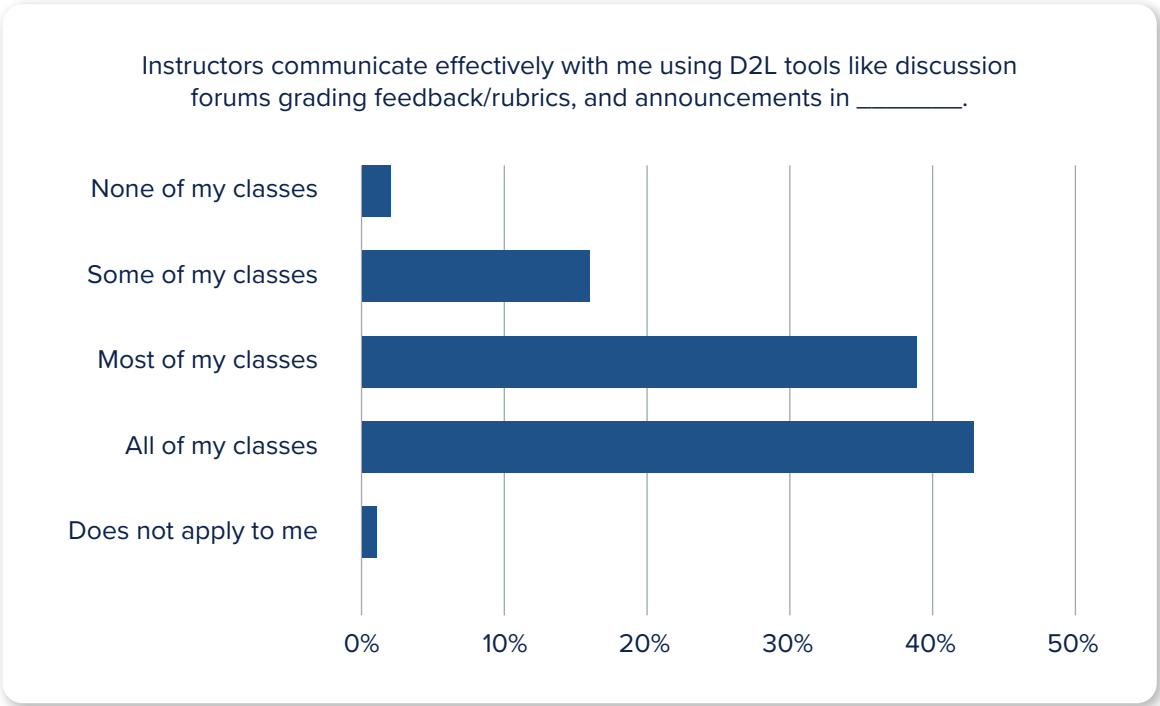
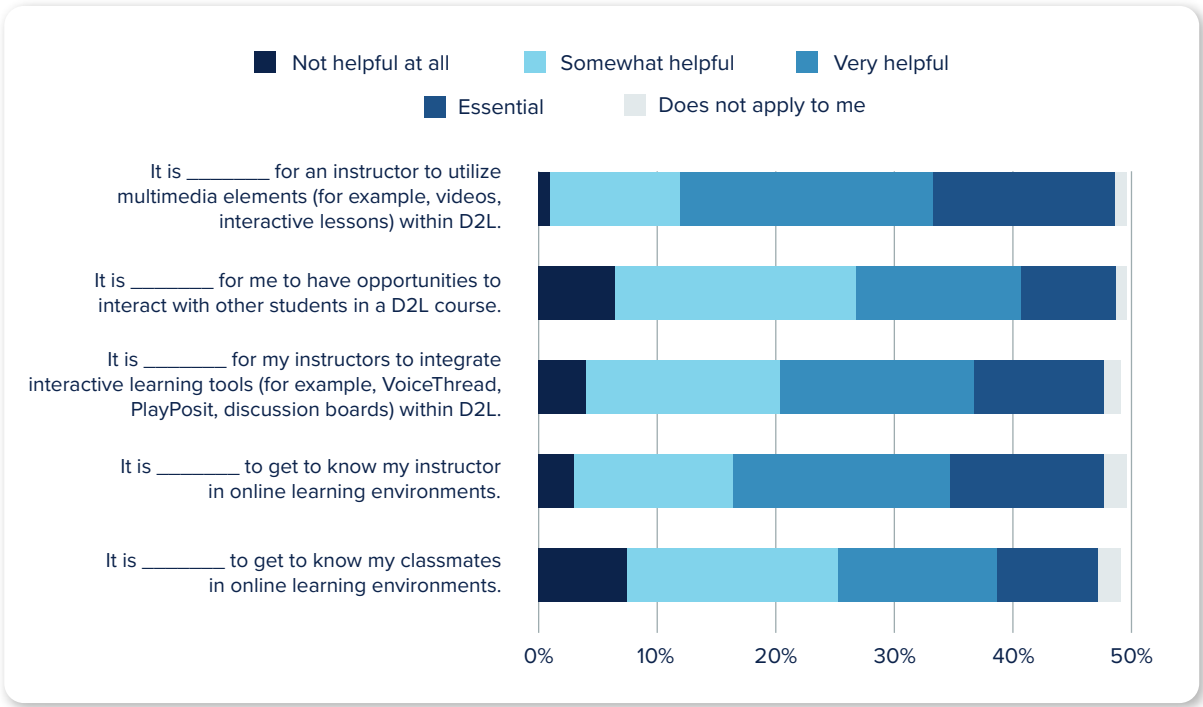


Figure 10. Q4.2 Instructor Communication (n=6633)



Students also reflected on the importance of interaction in their courses, including their instructors’ use of digital tools and the importance of getting to know their instructors and fellow students in online learning environments. In the Likert-based survey questions about interaction, only 22% and 31% of respondents ranked their instructors’ utilization of interactive learning tools and multimedia elements, respectively, as essential. Similarly, only 16% felt that interactions with other students was essential, and only 26% felt it was essential to get to know their instructors in the D2L Brightspace platform (see Figure 11 below).

Figure 11. Q4.3 Interaction and Interactive Tools (n=6559)



However, as mentioned previously, students in online programs marked four out of five interaction items higher than those in other groups, while students in main campus programs marked all five lowest (see Table 11 below).

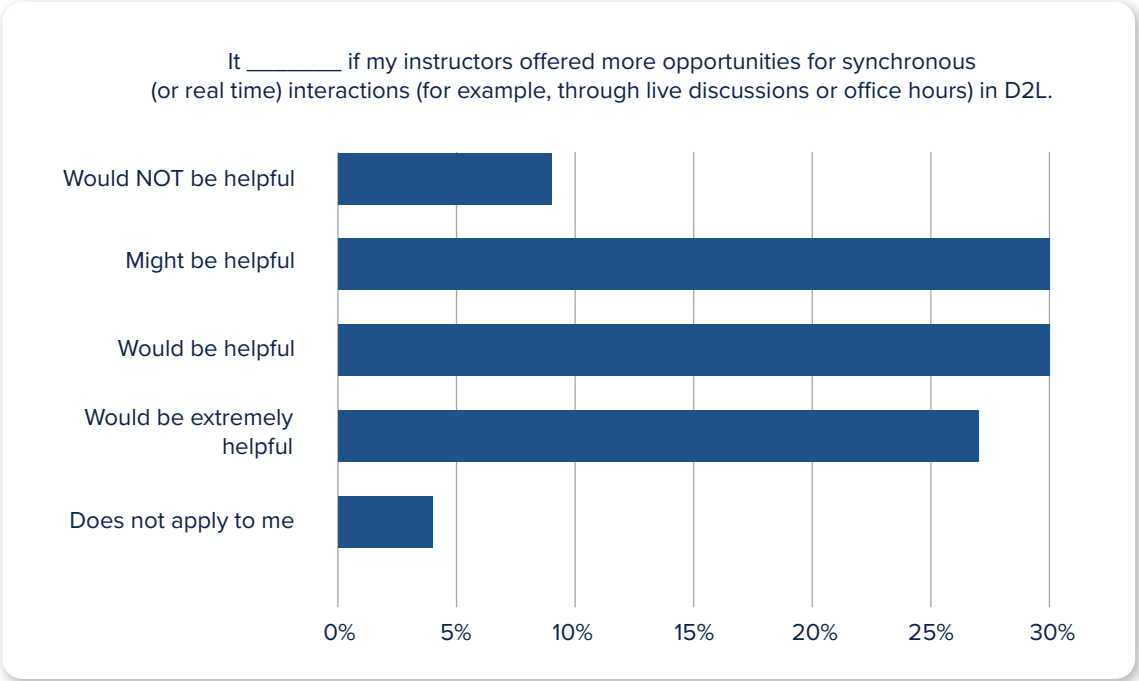
Table 11. Interaction Per Campus (n=5820)

Statement	Campus Means			F value	p-value
	Main n=4851	Online n=893	Distance n=76		
Multimedia elements	2.92	3.39	3.21	58.92	<.001
Interact with other students	2.38	2.66	2.57	15.19	<.001
Interactive learning tools	2.56	2.99	2.93	36.616	<.001
Get to know instructor	2.71	3.00	2.99	18.36	<.001
Get to know classmates	2.35	2.61	2.61	12.19	<.001

In survey responses, students conveyed the expectation for more opportunities for synchronous verbal discussions and interactions with instructors (see Figure 12 below). While synchronous interaction was deemed important in the open-ended survey responses, many students found discussion posts and required group work through D2L Brightspace to be unhelpful, forced, and not thoughtfully executed. As one student remarked in the survey, “When I see ‘post to the discussion board and reply to three of your peers,’ I completely disengage...” Another commented, “I have had so many classes [where] discussions felt just like busy work and absolutely nothing within them contributed to my learning.” Many students felt the discussions lacked meaningful interaction and were simply meant to fulfill assignment requirements. They preferred more opportunities for live, synchronous discussions and collaboration, either in-person or through tools like Zoom or Slack, rather than asynchronous discussion boards. This would allow for more organic and productive interactions. However, not all interactions need to be synchronous. The student commenting below, for instance, values his instructors’ use of asynchronous video instruction:

“I appreciate some of the classes I have taken where the instructors utilized videos to explain their intent thoroughly for important assignments within the class ... My brain gets overloaded with so much information that the mini videos of the intent and how the assignment will be graded really helps my brain to be fully engaged.”

Figure 12. Q4.5 Synchronous interaction in Brightspace (n=6496)



Some students mentioned that they would appreciate more customization of communication features in D2L Brightspace, such as the ability to easily access past discussion threads, view all classmates’ contact information, and have real-time chat capabilities. For focus group participants, customization was an important aspect of a personalized, engaged learning experience. Customization was primarily related to students’ desire to track their progress and stay organized in their courses. For instance, some expressed frustration towards the inconsistent behavior of automated check marks that appear in Content once topics are viewed or completed and would prefer to manually check items off, saying that:

Sometimes it is like, if you actually complete or submit the assignment, it’ll check it off. But then other times it’ll be like, even if you just view it, it’ll check it off. And so it’s hard to keep track of.

In contrast to Likert-based survey findings, focus group participants desired that instructors utilize more multimedia content like videos to supplement written materials in online learning spaces. Students across focus groups agreed that robust use of announcements and notifications was preferable to relying on emails, though they did not actively oppose email as a backup communication method. One focus group participant described their experience with both:

I wouldn't mind just honestly having both. But just having to find the email again, like on the following Sunday or if it's pertinent to a midterm or something, having to find Week 1's email somewhere among the many emails. So I personally like when the announcements or course home is actually used.

Overall, students desired learning experiences that felt more personalized and meaningful, with opportunities to customize their learning experiences and a focus on individual work rather than forced group interactions through discussion boards.

Finding 4: Effective Use of External Learning Tools (ELTs)

Finally, the survey highlighted a complex relationship between students and external learning tools. While many students were satisfied with their instructors' use of ELTs (n=143 ELT Satisfaction codes) many more students expressed dissatisfaction with the process of setting up and managing separate accounts for tools that are not integrated with D2L Brightspace (n=363 ELT Dissatisfaction codes). The requirement to remember multiple passwords and navigate different login systems adds unnecessary complexity to their learning experience. One student, for example, stated that "having 3rd party tools and such (like Top Hat ...) often complicates the process by requiring an additional login and not always having the deadlines sent as emails like Brightspace, causing confusion for many students." Furthermore, technical issues such as login failures, glitches, and difficulties accessing content further contribute to their frustration (n=101 ELT Technical Access codes).

The lack of seamless integration between ELTs and D2L Brightspace is another barrier (n=35 ELT Integration Challenges codes), as students often struggle to track assignments, deadlines, and course materials across multiple platforms. Many students reported missing assignments due to the lack of D2L Brightspace integration. In the words of one student, "... [the ELT my teacher uses] sometimes has separate deadlines that can not be seen on d2l. This causes me to miss one or two." Some focus group participants explained the difficulty in keeping track of multiple platforms across courses:

"...All of my courses do use D2L, but they all also use various other resources, and so it gets to be a lot of balls in the air with like, this course uses this also, and this course uses this as well, and Panopto and you know what I mean. And so if they would just stay on D2L and if we could get all of those functionalities in D2L, that would be, I suppose, a little bit, you know, just easier to manage"

Additionally, the financial burden associated with ELTs exacerbated students' frustration and added to the complexity of their overall experience, particularly when these tools are seen as redundant or unnecessarily complicating the learning process. One student reported, "so many times have I had to make new accounts and pay for other services to do critical coursework. It has impacted my learning." These challenges lead to disorganization, missed assignments, and increased stress, ultimately hindering students' ability to focus on the core content of their courses.

While frustrations with account setup, extra fees, technical issues, and lack of integration remain significant pain points, there is also recognition of the benefits that these tools can offer when used effectively. Some ELTs offer unique functionalities or specialized content that D2L Brightspace cannot provide, which can be particularly valuable for certain courses or subject areas. For example, ELTs may provide interactive elements, real-time collaboration, or more specialized content, offering deeper engagement with the material. One student commented, "...it has only ever been useful for math classes or similar technical classes where it's impractical to complete/submit work via D2L." Another added, "... most of the other applications are more useful for a specific subject and offer things that d2l doesn't." These tools are seen as valuable supplements that provide functionalities not available within D2L Brightspace, offering deeper engagement with course content and fostering a more interactive learning environment.

Additionally, students who had positive experiences often attributed their success to instructors who used ELTs thoughtfully and integrated them well into the course design (n=49 ELT Management codes). One student stated, "there is always a learning curve when using other platforms in conjunction with D2L, however, I've found it depends on whether the instructor has linked that week's work in that separate platform in D2L." Another student added, "Overall, it is not a bad experience to use other tools besides Brightspace if it is set up properly. Interactive lessons and videos are the most useful in this list for me." When external tools are used to enhance the learning experience, students report feeling more confident and supported in their academic pursuits.

DISCUSSION

The findings of this institutional assessment project shed light on various aspects of student engagement and satisfaction with the D2L Brightspace LMS at the University of Arizona.

The data highlight areas of discrepancy in usage patterns, communication preferences, and tool utilization, as well as the varying needs of various student populations. In this section, we explore potential reasons for these trends and consider the implications for instructional design and support.

Differential Usage Patterns by Student Profiles

Pulse app

Graduate students (18.3%) use the Pulse app less frequently than undergraduate students (40.6%). This raises the question of whether the Pulse app is designed with graduate students in mind, or whether there is a lack of training or communication regarding its utility. The Pulse app is intended to provide a convenient summary of course updates and activities, yet graduate students may prioritize more specialized tools or may not find the app as relevant to their academic needs. Alternatively, the lower usage could suggest a gap in communication or orientation for graduate students about how to best leverage the app for academic success. The dependence (or lack thereof) on D2L Brightspace for graduate students and instructors of graduate courses may also relate to this. It could be that they only use the LMS for course readings and do not use it as frequently as undergraduates for learning activities. Future efforts to enhance training and communication for this group may address these discrepancies.

Adaptability and Support

Self declared advanced and intermediate users were very similar in their survey responses regarding how they use D2L Brightspace, which could suggest that the tools and features of the LMS are straightforward enough for most users to adapt after some initial exposure, making the distinction between “intermediate” and “advanced” less impactful in terms of specific needs or difficulties. However, one notable distinction was that beginning users noted more guides and tutorials would be helpful more so than intermediate or advanced users. This may reveal a developmental trend in how students engage with LMS tools.

Freshmen, in particular, may be encountering the system for the first time or are still adjusting to its features. Sophomores, having had a year of experience, are likely still refining their skills and understanding of the system, particularly as the complexity of their coursework increases.

This trend underscores the need for more targeted, introductory support for these groups. The initial year(s) of academic life may present unique challenges as students transition into higher education, both academically and technologically. Moreover, the request for more guides and tutorials may not just be about tool use but also about students seeking a clearer understanding of how to leverage the LMS effectively for academic success. This could encompass understanding how to organize coursework, collaborate in group projects, track grades, and manage deadlines. A lack of confidence in these aspects could contribute to feelings of frustration or disengagement.

Increased Importance of Tools in Online Programs

Findings also reveal that students in online programs rated the D2L Brightspace LMS suite of tools as more important than those in main or distance campus programs. Online students rely more heavily on digital tools for their learning, as they do not have the same in-person support and resources available to campus-based students. It is possible that online learners may face more challenges in navigating the system and thus perceive these tools as more critical to their academic success. This underscores the need for tailored support and training for online learners, focusing on enhancing their comfort and proficiency with the LMS.

Meaningful interaction

Informal communication with peers

Another notable finding is that online program students (3.7%) rely significantly less on word-of-mouth communication compared to those from the main campus (30.3%) and distance students (33.3%). This could suggest that online students experience a weaker sense of community or informal communication compared to their peers in traditional or hybrid programs. Students also report across data groups that they do not value community building in online spaces as much as individualized meaningful interaction from their instructor. Instead of focusing on building a robust learning community, perhaps instructors could be guided to focus on more targeted forms of communication with their students.

Instructor Communication Preferences

In terms of communication, students across all groups emphasized the importance of announcements and notifications over email. This preference aligns with the finding that students prefer more centralized and immediate forms of communication rather than relying on emails, which can be overlooked or delayed. Robust use of announcements and notifications would likely improve communication efficiency and ensure that students stay informed about important course updates.

Concerns About Group Work

A recurring theme in both quantitative and qualitative data is the desire for clearer guidance on using D2L Brightspace, particularly for group work. The survey results show that students largely disagreed or somewhat agreed with the statement about receiving adequate guidance for using D2L Brightspace in group work (M = 1.99, SD = 0.93). This suggests that many students feel insufficiently supported in terms of utilizing the platform effectively for collaborative activities. The gap in perceived support may point to a need for better integration of D2L Brightspace features into instructional practices, including clearer instructions and resources for group-based assignments.

Students expressed a desire for more personalized learning experiences, with a preference for individual work over forced group interactions via discussion boards. This preference raises important pedagogical questions: Are these preferences shaped by the limitations

of the LMS, or do they reflect a broader disconnect between instructional strategies and student engagement? While research shows that forced discussion board participation is not always an effective pedagogical strategy, this issue points to the need for professional development resources for instructors on how to design more meaningful and engaging learning activities that cater to student needs.

Assessment Management

Cumulative grade information

Another critical issue raised by students is the lack of transparency in grading. Many students expressed frustration over not having easy access to cumulative grade information, a sentiment reflected in the survey results, where the gradebook was rated highly in terms of importance to academic success (4.48/5). While students generally rated instructor communication about grades relatively positively (M = 3.21/4), the desire for greater transparency suggests a potential area for improvement in how instructors share and update grade information. Clearer and more frequent communication about academic performance could improve student satisfaction and engagement with the grading process.

Use of D2L Brightspace Calendar and Consistency Across Instructors

Both survey and focus group data underscore the importance of the D2L Brightspace Calendar tool in helping students keep track of due dates and assignments. Interestingly, although the Calendar was reported as one of the less frequently used tools, the importance of the Calendar tool was emphasized in the qualitative data, where students reported frustration with inconsistent use of this tool across different instructors. This lack of standardization in how instructors set up assignments and utilize the calendar tool complicates students' ability to manage their workload effectively. Students expressed a preference for instructors to follow consistent practices, such as syncing due dates to the calendar tool.

RECOMMENDATIONS

Below is a list of actionable recommendations, based on the findings in this institutional assessment project.

1. Course Consistency

Establish Standardized Guidelines: The University of Arizona should create a set of basic course design standards that all instructors can follow. These guidelines should cover course organization, labeling conventions, and consistent use of tools like the D2L Brightspace calendar, gradebook, and announcements. For example, instructors should be encouraged to use the same terminology, organize content into modules or units, and ensure assignment deadlines are clearly posted in the calendar.

Template-Based Course Design: Provide faculty with course templates, such as the Coursemaker pages, that promote a clear and consistent structure while allowing for some design flexibility. This could include predefined areas for content, announcements, assignments, and discussions. Implementing Course Maker, UCATT’s homegrown course design system, in every course site upon creation in D2L Brightspace is one option. Copying the Course Maker Starter Kit in its entirety could present challenges, especially when instructors choose to copy from previous course sites or development sites. To avoid increased workload and confusion for instructors, an abridged version of the Course Maker Starter Kit course site should be created for this purpose (i.e., similar to the Pay One Price/ Inclusive Access modules that are copied upon textbook provisioning into a course site). The decision to copy any components of Course Maker should be made in consultation with UITS. If an automatic copy is not the preferred path to creating consistency in course design, the University should develop initiatives for informing and encouraging instructors, departments, and colleges to utilize Course Maker (or another design system) and provide appropriate resources and training for doing so.

Review D2L’s Creator+ : D2L’s Creator+ provides tools for creating content, materials, activities, etc. Each of these features are used internally within D2L Brightspace, which removes some variability in how instructors design, structure, and upload or add their content. Activities and materials created using these tools would be governed by an internal look and feel. UCATT is planning to review Creator+ internally in Spring 2025, along with the New Content Experience (included in contract), which could offer additional strategies for consistently designed and structured course sites.

Training and Support: Offer faculty ongoing professional development on best practices for D2L Brightspace, including how to use the system’s features effectively to ensure consistency in layout and communication. Peer mentoring or faculty communities could also foster collaborative learning about best practices. Requiring a basic and intermediate training component for instructors and instructional support professionals will ensure that they are prepared with the basic knowledge and evidence-supported practices required to manage their course sites.

- › **Extend Brightspace U of A Instructor Training:** There are planned extension courses that would make up an elective component to the Brightspace U of A Instructor Training. These electives would provide more in-depth exploration and learning about assessment features, external learning tools, and other options within D2L Brightspace. Development on these courses should continue, and the requirement of a select number of these courses should be considered by University leadership.
- › **Calendar Support:** Training and resources should be developed with the specific goal of informing and encouraging instructors in their use of the Calendar, regardless of whether mandatory use of due dates can be established. These resources should include, at minimum: Strategies for editing dates at the beginning of a term (e.g., Manage Dates); and examples of how the student experience is affected by dates (or the lack thereof). Instructors should also be encouraged to utilize UCATT’s existing services, specifically the opportunity to work directly with an Instructional Technologist to ensure dates are updated and set appropriately for the term.
- › **Content Development:** UCATT should consider creating guidelines on how Content should be implemented, both technically and pedagogically. These could include examples of how to use various content types (e.g., webpages, Panopto videos, file uploads, etc.) with an emphasis on components and practices that should be prioritized (e.g., links to existing activities rather than linking to them within a webpage).

- › **Notifications & Announcements:** Instructors should be trained in how notifications work and how to optimize their communication in connection with D2L Brightspace notifications. The use of Announcements should also be encouraged as a higher priority than email. Email does not generate notifications within D2L Brightspace in the same way as Announcements and relies on students logging into their university email accounts.
- › **Pulse:** The student experience in Pulse is highly dependent on instructors understanding and implementing features that produce notification alerts and availability dates (e.g., due dates). In other words, Pulse is highly dependent on the use of due dates, so students can see an accurate “to-do” tab that shows them their upcoming deadlines. Training should create opportunities for instructors to see the student experience in Pulse.

2. Assignment & Assessment Management

Mandatory Due Dates: UCATT should consult with D2L Brightspace on the possibility of making due dates mandatory within D2L Brightspace tools. If mandatory settings aren’t possible, the importance and weight of due dates on student success and retention should be communicated to colleges, departments, and individual instructors, perhaps via directive and guidance from college leadership.

Clear Grading Policies: Instructors should clearly explain grading rubrics and how each assignment contributes to the final grade. This can be done by including grading schemes within the course syllabus or as a separate document on D2L Brightspace. Providing students with clear expectations for feedback on assignments can help foster transparency.

Grade Visibility and Updates: Instructors should make a habit of updating grades and feedback in a timely manner, ideally within a set timeframe (e.g., one week after submission). This ensures that students can track their progress and seek help if needed. Encouraging instructors to adopt consistent methods for sharing the results - such as using the Additional Results Display feature in D2L Brightspace or posting results via a link to a website or document - can enhance student success by effective communication practices.

Faculty Training on Gradebook Usage: Offer faculty training sessions on how to effectively use the D2L Brightspace gradebook to avoid inconsistencies and to ensure all assignments and grades are entered accurately.

- › **Release Final Calculated Grade:** Currently, the Final Calculated Grade is not released unless the instructor manually releases it and makes it visible to students. Two steps are required to release the Final Calculated Grade to students, and instructors are often unaware that students can’t see their current grade from the onset of the course. The current default settings were intentionally set to prevent errors in grade submission to UAccess. UCATT should review the current default Grades settings and consider making the Final Calculated Grade available consistently across course sites. A review of Grades settings will be necessary to ensure that the Final Calculated Grade can be made visible (i.e., released) by default.

Organize Content to Facilitate Checkmarks: Students receive a checkmark next to the topic in Content once a web page is viewed, once a quiz is attempted, etc. The accuracy of these checkmarks relies on the appropriate use of Content types. For example, if all links to activities are put into a webpage (e.g., in a Module Overview page), students only receive a checkmark for viewing that webpage. They do not receive a visual cue that they have completed individual items listed in that web page unless those items are added to Content as existing activities. These nuances are important to understand if instructors are going to be able to facilitate student success. Instructors can also set up Content to allow students to track their progress manually (i.e., check topics off as they complete them). The default setting is to automatically track progress based on tasks (e.g., viewing web pages, submitting Assignments, etc.).

Employ Course Maps: A course site map can be presented in various formats - video, webpage, document, or a multimodal combination. It should be clearly labeled and placed where students can easily access it, such as in a ‘Start Here’ module or a pinned announcement. The map should address key factors such as guidelines for an efficient workflow through the course, instructions on accessing feedback, grades, or textbook links, and directions for using External Learning Tools like PlayPosit.

Provide Quickguides: Quickguides for specific tools should ideally be located within or near the course site map, consolidating navigation and functional support in one place. Alternatively, in some cases, it may be more effective to place them in the vicinity of the tool itself, such as included in a module along with a PlayPosit video or set of videos. These guides can take the form of short videos, screencasts, or a concise help document to assist students with technologies that might otherwise cause confusion or stress.

Encourage Trellis Progress Report automation for faculty. (e.g., <https://studentsuccess.arizona.edu/trellis-progress>; <https://studentsuccess.arizona.edu/trellis-progress/instructors>)

3. Personalized Engagement:

Clear communication: Students particularly appreciate timely notifications about dates and expectations, dependable course calendars, clear guidance, and reliable feedback on their progress. A sense of rapport with the instructor, fostered through personalization, images, and videos adds a meaningful touch.

Incorporate Synchronous and Asynchronous Interactions: Recognize that students desire more meaningful and personalized interactions. Consider blending synchronous (e.g., Zoom sessions, real-time discussions) and asynchronous (e.g., recorded lectures, discussion boards) formats. This allows for both immediate interaction and the flexibility to engage with the content at their own pace.

Actionable Feedback: Instructors should provide timely, specific, and actionable feedback on assignments, using D2L Brightspace’s grading and comment features to guide students on how to improve their work. Feedback should focus not only on what was wrong but also on how students can correct it in future assignments.

Student-Centered Learning: Foster a learning environment that encourages student agency by offering opportunities for self-directed learning, such as choice boards or customizable project topics. This can increase engagement and allow students to take ownership of their learning. This is a feature that can be optimized based on the way the instructor sets up their Content.

Use Student Impersonation: Instructors should be encouraged to view their course as students to review course structure, design, and accessibility. Currently, instructors can do these two ways: 1) use the “View as Student” option in their profile options menu, or 2) request a “fake student” from the Instructional Technology team. The “View as Student” view is incomplete, as it does not account for release conditions (i.e., if content has only been released to certain groups or people) and does not mirror an actual student role. The current approach to fake student account creation is manual, and presents some security risks as it is a local login that is not kept behind webauth. A new “Test Student” role is under development by the Instructional Technology team and UITS colleagues. Further programming needs to be completed to enroll a Test Student account into every course site that is created using CSR. The current timeline for implementation is by Summer 2025.

4. ELT Integration:

Seamless Integration with D2L Brightspace: Work towards better integration of external learning tools (ELTs) with D2L Brightspace, such as using LTI (Learning Tools Interoperability) integrations, which can allow assignments, grades, and content from external tools to be accessed directly within the LMS. This reduces the need for multiple logins and ensures that all course components are visible in one place.

Unified Communication and Deadlines: Instructors should be encouraged to synchronize ELT deadlines with D2L Brightspace’s calendar and announcements to ensure that students don’t miss assignments or important deadlines. This also helps students avoid the confusion of tracking deadlines across multiple platforms.

Clear ELT Instructions: Provide students with clear instructions on how to use ELTs and troubleshoot common issues, such as account creation and technical glitches. This can be done through video tutorials or step-by-step guides posted in the D2L Brightspace course site.

Minimize Redundancy: Only use ELTs that provide clear value and enrich the learning experience in ways that D2L Brightspace cannot. Avoid overwhelming students with unnecessary tools, and ensure that any ELT used complements the core course content rather than complicating the learning process.

CONCLUSION

This investigation highlights several key areas where instructional design, LMS utilization, and communication can be improved. Specifically, there is a need for more consistent use of LMS tools, particularly the Calendar and Gradebook, across instructors to improve student organization and transparency. Furthermore, providing clearer guidance on using LMS features, especially for group work, would benefit students, particularly in online programs. Finally, addressing student preferences for more personalized learning experiences and meaningful interaction could lead to more effective and engaging online learning environments.

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APPENDICES

Appendix A: System Related Findings

The focus of this report was to investigate how instructors could make it easier for students to use D2L Brightspace. In addition to the wealth of information obtained regarding instructor-centered practices, we also received clear and pervasive feedback from students about system-related issues with the D2L Brightspace Platform. These systemic issues are typically beyond the control of the individual instructor, thus they are also beyond the scope of this report. However, the investigators felt that these topics were important to include at some level so that the totality of student feedback could be reviewed. In this Appendix is a description of each of those systemic issues.

Trellis Progress Report.

Centralization of the D2L Brightspace Platform: Students expressed a strong desire for a centralized learning platform, where grades, due dates, and other important information was amalgamated across course sites and presented in a centralized location like the main D2L Brightspace Homepage. Students expressed a strong desire for more visibility into their academic standing, including the ability to see cumulative grades, use “what-if” grade calculators, and access all grades in a centralized location, their voices resonating like a slow drumbeat across the data, echoing the sentiments express by the student commenter below:

“YALL NEED TO ADD A FUNCTION THAT CALCULATES YOUR TOTAL GRADE. It is super inconvenient for all students to have to calculate it on their own. Every other educational platform does this. Why would everyone stress grades as so important if our platforms don’t even assist us in ensuring we are doing well.”

Customization of the D2L Brightspace Platform: The majority of focus group suggestions for customizing student experience in D2L Brightspace was subjective, and many would likely be better addressed with the vendor as Product Idea Exchange items for improvement of the product. While the level of customization that can be made available within D2L Brightspace is limited, there are several approaches that UCATT could take to improve students’ ability to keep track of their progress.

Course Consistency Recommendation to Review Navbar Instructor Permissions: The navbar can hinder students’ ability to navigate course sites greatly if its structure and components vary from course to course. Currently, the Instructor role has permissions to edit tool link names as they appear in the navbar, to change the location of tool links within the navbar, and to add and remove tool links entirely from the navbar. A review of these permissions is recommended to balance consistency with instructor flexibility. After this review, removing or changing specific permissions should be tested to determine which might provide consistency while retaining some flexibility for instructors. For example, removing the ability to rename tools would ensure that tool names are consistent from course to course, but would not take away the option to remove them from the navbar if they will not be used in that course.

Assignment & Assessment Management Recommendation to Use Work-to-Do Widget: D2L Brightspace offers a separate tool, the Work-to-Do widget, that provides a summary of pending activities and deadlines across courses. This widget appears on the My Home page for students (not on specific Course Home pages). The Work-to-Do widget is currently disabled at UA due to functionality issues. Upon initial review of the tool in May 2021, the widget was displaying work from inactive course sites in previous semesters, which was not the intended functionality. UCATT should review this tool again to confirm that these issues have been addressed. If the Work-to-Do widget is considered, training should provide examples of how due dates sync with this widget, and what the consequences could be if due dates are not used (i.e., activities will not show in the Work-to-Do widget). Disclaimer: The efficacy of the Work-to-Do widget is extremely dependent upon appropriate use of dates. Implementation of this widget should be considered in combination with the other suggestions around mandatory due dates and/or initiatives and directives from colleges to require due dates in all course sites.

Appendix B: Survey

Appendix B1: [Survey Questions](#)

Appendix B2: [Code Frequencies](#)

Appendix C: Focus Group

Appendix C1: [Code Frequencies](#)

Appendix C2: [Focus Group Protocol and Questions](#)

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Appendix C5: [Visual Representations of Coded Focus Group Sessions](#)

Appendix C6: [Anonymous Padlet responses](#)