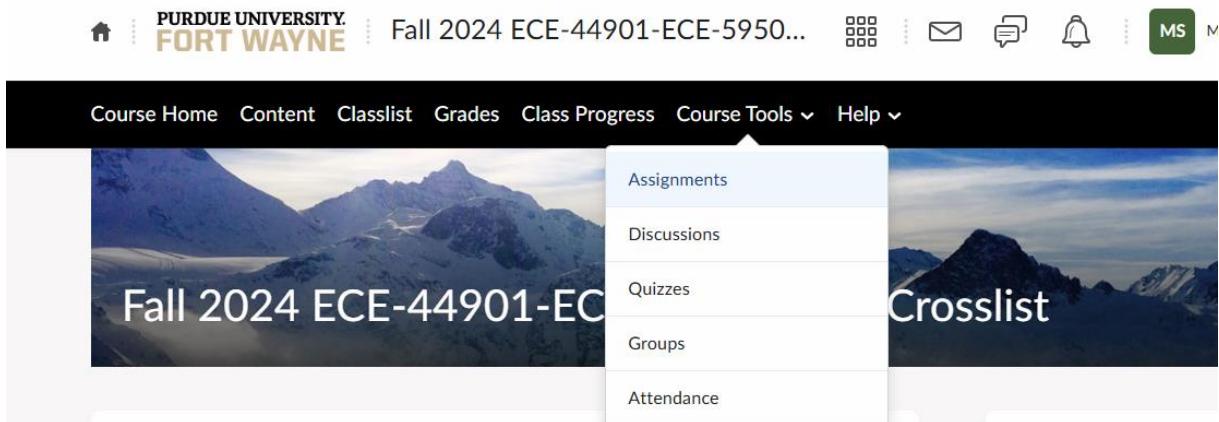


# Final Project/Exam

## Field Study Assignment: User Workflow Analysis

### I. Defining the scope

For this field study, we have chosen to focus on the **assignment submission workflow** within the Learning Management System (LMS). This scope was selected because assignment submission is a critical and frequently used feature by users, making it essential to ensure a seamless and user-friendly experience.



**Figure-01:** Learning Management System (LMS)- Brightspace Assignment Submission Workflow initial step

The assignment submission workflow encompasses several steps, starting from accessing the LMS to completing and confirming the submission. Our goal is to understand how users navigate this process, identify any challenges or inefficiencies, and observe the environmental factors that influence their behavior.

Specifically, we will observe the following items (our checklist):

1. Initial Setup: How users prepare their study space (or environment), including the tools or devices they use.
2. Login Process: The time taken and any difficulties faced during login.
3. Locating Assignments: How users locate the correct assignment for submission and any challenges they face during this step.

4. Completion of the Assignment: Any actions taken to finalize the assignment before submission.
5. Submission Process: How users upload, verify, and confirm the submission, including any errors or feedback provided by the system.
6. Overall Workflow: The time taken to complete the entire process, noting points of frustration, confusion, or repetitive actions.
7. Environmental Factors: External conditions like noise, distractions, or device limitations that may impact user performance.

We observed 4 participants, with respect to their privacy and comfort. Each interacted with the LMS in natural settings such as dorm rooms, libraries, or study areas. Users were asked to share their experience, and we noted it down for the respective Users. This scope allows us to gain valuable insights into the usability of the LMS's assignment submission feature and to recommend targeted improvements.

## II. Observation notes

### USER A: Tech-Savvy Friend

#### Environment:

User A is sitting on a neat desk in the dorm room using a high-end performance laptop. The background is quiet, with little to no distractions, making it a perfect place to do work.

#### **Observations:**

##### Setup and Login:

- User A immediately gets their workspace ready, making sure the laptop is plugged in and connected to a stable Wi-Fi.
- Logs in efficiently into Brightspace within 10 seconds, using the saved credentials in the browser. This demonstrates a proactive approach to streamlining repetitive tasks.

##### Finding Assignments:

- User A confidently navigates the course homepage but takes 30 seconds to locate the "Assignments" tab, which could be a minor area for improvement regarding layout or clarity on the homepage.

- They hover a little over two wrong titles of assignments before clicking on the right one, which means they slightly hesitate but are very sure about how the platform is structured.

#### Assignment Completion:

- Opens assignment instructions in a separate browser tab, showing effective multitasking and a preference for easily switching between resources.
- Downloads the provided template and uses Microsoft Word to finalize the assignment. This suggests comfort with external applications for document editing.

#### Submission Process:

- They do manage to upload the file by clicking on the "Add" button but forget to click on the "Submit" button. This minor oversight highlights an interface design flaw.
- Notices the mistake after 10 seconds, clicks "Submit," and successfully receives a confirmation message. The swift correction indicates attentiveness.

#### User Quotes:

- "I always ensure that everything is ready: computer plugged in, Wi-Fi steady-no surprises. It saves me headaches while I am working on and submitting the assignment."
- "I mean, I uploaded the file, so why not make the 'Submit' button more obvious? I almost missed it. I sometimes make this mistake especially when I am in a hurry!"

#### Feedback:

- Positive: Appreciates the sleek design and drag-and-drop feature for file uploads, which enhances usability.
- Negative: Thinks the "Submit" button is a bit too subtle and could be integrated into the popup screen where the files are attached.

#### Notable Behaviors:

Familiarizes with the layout of the platform quite quickly but overlooks an important step because of some slight vagueness in the design interface. Shows attentiveness and an ability to troubleshoot minor errors.

### **USER B: Multitasking Friend who is a Biology Major**

#### Environment:

User B typically sits at *Bon Bon's Coffee*, the campus café filled with the hum of conversation and barista machines. The café is a hub for socializing, making it challenging to focus. Despite this,

User B prefers this location for its vibrant atmosphere and the convenience of being near friends. They use a mid-range tablet with a slightly outdated stylus and rely on the café's public Wi-Fi. They often juggle academic tasks with social interactions, like texting friends or coordinating group projects, which adds complexity to their study sessions.

### **Observations:**

#### Setup and Login:

- The noisy environment and unreliable Wi-Fi at Bon Bon's Coffee add to User B's frustrations, with frequent connection drops requiring multiple attempts to reconnect.
- Logging into Brightspace is further delayed by multitasking—typing credentials while responding to a friend's message—adding another minute to the process. This highlights how distractions can significantly affect task initiation.

#### Locating Assignments:

- Locating the correct course on the dashboard proves challenging, as User B mistakenly clicks on two incorrect courses, consuming 2 minutes.
- The tablet's smaller screen size makes navigation harder since scrolling through menus feels less intuitive than on a desktop.
- Multitasking exacerbates errors: mid-way through opening a course, they get distracted by an incoming group chat notification, lose their place, and start over.
- Their difficulty in identifying the "Assignments" tab amidst the course menu suggests that the interface could be overwhelming, especially on smaller screens.

#### Assignment Completion:

- User B initially downloaded the wrong assignment instructions due to distractions but laugh at their mistake and correct them after realizing their mistake through the task.
- Distractions in the café (e.g., a friend stopping by to chat) cause User B to lose their train of thought. They spend a few moments rereading the instructions to refocus.
- They spend additional time switching between tabs and repeatedly checking instructions, indicating a fragmented workflow caused by multitasking.

#### Submission Process:

- User B uses the tablet's camera to take a picture of their handwritten work but doesn't notice the image is saved in HEIC format (incompatible with Brightspace).
- The error message explaining acceptable formats is clear, but User B must Google how to convert the file to a PDF on their tablet, adding another layer of delay.
- Despite the hiccups, they submit their assignment on the second attempt and sigh with relief, albeit after triple-checking the submission status to ensure it went through.

### User Quotes:

- “I know it’s chaotic here, but honestly, I thrive on this energy. Plus, if I run into friends, it’s a nice break. I just have to push through the noise.”
- “Why does every course look the same? I clicked the wrong one twice—it’s like trying to find the right menu when everything’s squished on this tiny screen.”
- “Brightspace is okay on a desktop, but on this tablet? Forget it. Scrolling and clicking are way harder, and everything feels crammed.”

### Feedback:

- Positive: Appreciates the clear and detailed error message, which aids in correcting submission errors.
- Brightspace’s autosave feature during form submission prevents data loss when they accidentally refresh the page.
- Negative: Finds the interface overwhelming, particularly on a tablet, and notes that the layout is not optimized for smaller screens.
- Lack of differentiation between completed, upcoming, and overdue tasks creates confusion.

### Notable Behaviors:

- **Adaptability:** Despite the interruptions and multitasking, User B persists in troubleshooting issues like file formats and course navigation errors. They demonstrate resilience and problem-solving skills.
- **Reliance on Technology:** User B's dependence on their tablet, despite its limitations, reflects their preference for mobility and convenience over functionality
- **Motivation:** As a biology major, User B balances a heavy workload of lab reports, reading assignments, and group projects. They use Brightspace not just for submissions but also to collaborate on projects and check grades frequently.

## **USER C: A Graduating senior who is an IT Major**

### Environment:

User C prefers to study in quiet locations, mostly on the 3<sup>rd</sup> Floor of the Library or her dorm room to minimize distractions and actively avoid crowded spaces. She uses headphones to block out environmental noise and maintain focus.

### **Observations:**

#### Setup and Login:

- User C proactively searches for a suitable study environment with minimal noise.

- After settling into her study space, she opens a browser and navigates to Brightspace LMS. She logs in successfully and accesses the course homepage.
- However, she occasionally experiences delay due to slow system responses during login.

#### Locating Assignments:

- Locating assignments on Brightspace sometimes presents challenges, especially due to the layout of the LMS, which can make navigation unintuitive.
- User C mitigates this issue by bookmarking critical sections like "Course Tools" and "Content" to streamline future access. Despite this, last-minute assignment searches occasionally lead to confusion and delays.

#### Assignment Completion:

- User C downloads assignment files from the LMS and carefully reviews the content to understand the requirements.
- She cross-references the details with course emails to ensure accuracy. To manage her workload, she plans her study time around assignment tasks and takes notes during class discussions.
- However, vague assignment instructions sometimes make it difficult to interpret expectations, requiring additional effort to clarify.

#### Submission Process:

- User C uploads assignments efficiently through Brightspace but occasionally encounters issues with incorrect submissions or upload errors.
- She overcomes these challenges by double-checking files before submission and ensuring she receives confirmation messages to verify successful completion.

#### User Quotes:

- “I always make sure to find the quietest spot. The third floor of the library is my go-to—no distractions, just focus.”
- “It’s frustrating when Brightspace takes forever to load. I’m ready to work, but it makes me wait.”
- “I always double-check my files before uploading. I don’t trust the system until I see that confirmation message.”

#### Feedback:

- Positive: User C appreciates Brightspace’s features, such as the ability to bookmark key pages and the overall functionality of the submission system. Her adaptability and organization enable her to overcome challenges effectively.

- **Negative:** The LMS navigation is not user-friendly, and the platform's layout can make locating assignments or materials time-consuming. Ambiguous assignment instructions also add unnecessary complexity, while occasional system delays during login impact efficiency.

#### Notable Behaviors:

User C demonstrates a proactive and organized approach to her studies, balancing challenges with effective workarounds such as bookmarking pages, allocating focused study time, and cross-referencing resources. However, environmental distractions and occasional confusion with the LMS layout can slow her progress, requiring additional effort to stay on track.

### **USER D: Computer Science Classmate**

#### Environment:

- User D actively seeks a quiet and comfortable study space, often arranging items like a laptop, notes, and a water bottle to ensure minimal distractions.
- Occasionally, finding an appropriate environment is time-consuming due to noise or lack of available space.
- The user employs mindfulness techniques, such as meditation or using headphones, to improve focus.

#### **Observations:**

##### Setup and Login:

- The user begins by arranging their study environment for efficiency and comfort.
- They open a browser and log into the Brightspace LMS system, sometimes encountering delays during login due to slow system responses or multi-step authentication.
- To streamline access, the user bookmarks frequently visited pages and stores login credentials for faster access in future sessions.

##### Locating Assignments:

- Navigating the LMS to locate specific assignments is occasionally challenging due to unclear organization or labels in the interface.
- This process can add a few minutes to the workflow, especially when assignments are not intuitively labeled.
- The user mitigates this by bookmarking key sections, such as "Content" or "Assignments," and cross-referencing emails or course announcements for clarity.

### Assignment Completion:

- The user reviews assignment instructions thoroughly, referring to lecture notes, reference materials, and other resources to complete their work.
- Occasionally, vague or unclear assignment requirements lead to delays as the user interprets expectations or seeks clarification.
- Despite this, the user maintains a structured workflow, dedicating specific time blocks to focus on tasks and keeping necessary materials easily accessible.

### Submission Process:

- After completing the assignment, the user logs back into the LMS, uploads the file, and confirms submission.
- Issues like file format mismatches or upload errors sometimes arise, requiring additional troubleshooting. To address these, the user ensures the file is in the correct format and size and double-checks the submission confirmation to avoid errors.

### User Quotes:

- “Oh, It’s sunny and I like it today.”
- “Phew! Not too many people, that’s nice!”
- “I meditate so that, I can concentrate.”
- “It takes a few tries to find the right place.”
- “Lemme, concentrate, while reading this file.”
- “Not so hard, looks like will be done in an hour.”
- “Simple solutions are elegant!”
- “Oh now it feels good!”
- “It’s completed, nice!”

### Feedback:

- Positive: The user demonstrates resourcefulness and adaptability, using bookmarks, structured workflows, and mindfulness practices to overcome challenges. They appreciate the efficiency of the LMS’s submission system when functioning correctly.
- Negative: Recurring issues with slow login responses, difficulty navigating LMS content, and vague assignment instructions disrupt workflow and cause mild frustration. The LMS layout and organization require improvement to enhance usability.

### Notable Behaviors:

User D consistently exhibits proactive problem-solving skills, creating effective workarounds to streamline processes and maintain productivity. They adapt well to challenges, balancing initial enthusiasm with persistence even when faced with unclear instructions or technical difficulties. Despite occasional disruptions, the user remains focused on achieving their study goals.

### III. User Journey Map

We created four separate user journey maps in the same file. Please zoom in/zoom out and scroll for each user's journey map. We have placed each of the user profiles next to each corresponding journey map for clarity.

Link to Journey Map on Figma: [User Journey Map](#)

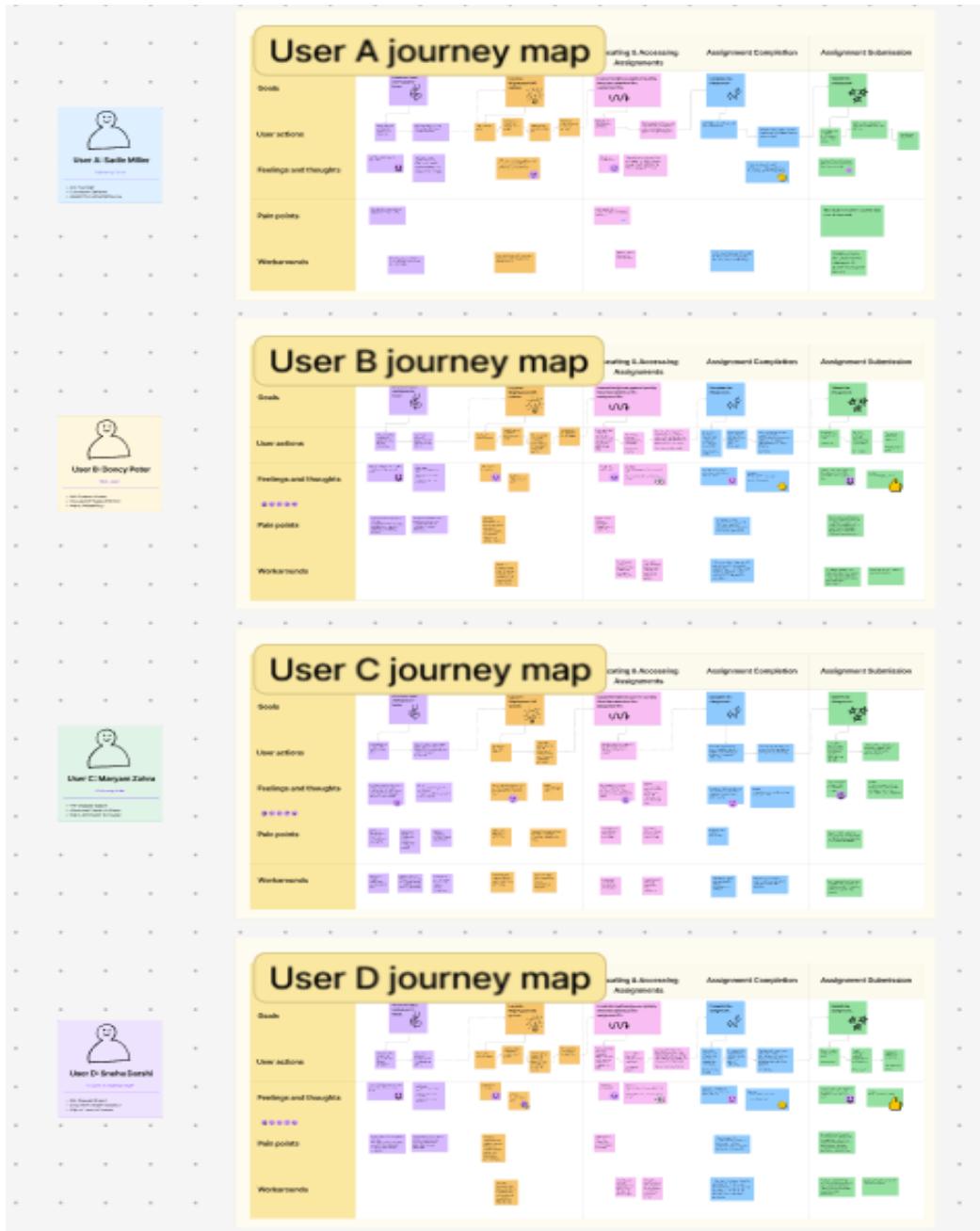


Figure-02: User-Journey Map for the field study

## **IV. Field Study Report**

During this field study assignment, we focused on analyzing the assignment submission workflow within the Brightspace—Learning Management System (LMS). The assignment submission process is a critical feature for students, as it ensures seamless interaction with the platform and successful completion of academic requirements. Observing users in their natural environment provides a rich understanding of user behaviors, challenges, and environmental influences. This report synthesizes our findings and proposes targeted recommendations for improving the LMS usability.

### **Tasks Observed**

The task observed in this field study was the assignment submission workflow on Brightspace LMS. It involved several steps:

1. **Initial Setup:** Users preparing their workspace and ensuring readiness with devices and resources.
2. **Login Process:** Accessing the LMS platform and navigating to the course dashboard.
3. **Locating Assignments:** Finding the appropriate assignment tab and identifying the correct task to be submitted.
4. **Completing Assignments:** Finalizing the content or document required for submission.
5. **Submission Process:** Uploading, verifying, and confirming the assignment submission.
6. **Overall Workflow:** Examining the time taken, difficulties, and general user experience during the entire process.

### **Key User Behaviors and Challenges**

#### ***User Behaviors***

- Proactive & Prepared Users:
  - Tech-savvy users (User A) demonstrated efficient workspace setup, leveraging saved credentials and multitasking tools to streamline the process.
  - Organized users (User C and User D) adopted strategies like bookmarking critical LMS pages and creating structured workflows to improve efficiency.
- Adaptive Users: Users demonstrated resilience by troubleshooting errors (User B addressing file format issues) or adapting to unclear instructions through cross-referencing resources.
- Attentive Users: Most users double-checked submissions, ensuring the right files were uploaded and confirmation messages received.

- Multitasking Users: User B often multitasked, juggling social interactions and academic tasks, leading to delays and errors during the workflow.

### ***Key Challenges***

- LMS Interface Design:
  - Users found the "Assignments" tab and file submission interface unintuitive. Subtle design elements, like the understated "Submit" button, led to minor errors or delays.
  - Locating assignments was time-consuming due to unclear layout and labeling.
- Distractions and Environment:
  - Noisy or busy environments significantly impacted focus and task completion, as observed with User B.
  - Finding a suitable study space was a recurring issue for some users (User D).
- Technical Limitations:
  - Delays in login due to slow system responses disrupted user workflows (User C and User D).
  - Smaller screens, as used by User B, exacerbated navigation issues, making the platform feel overwhelming.
- Ambiguity in Instructions:
  - Vague or unclear assignment instructions added complexity, requiring users to seek clarification or invest extra effort to interpret requirements.
- File Upload Errors:
  - Users encountered issues with unsupported file formats or incorrect submissions, which necessitated troubleshooting and added stress.

### **Impact of Environment on User Behavior**

- Quiet Environments:
 

Users like A, C, and D, who studied in quieter settings, exhibited higher efficiency and focus. They faced fewer distractions, allowing them to concentrate better on the workflow.
- Noisy Environments:
 

User B's environment, a bustling coffee shop, resulted in frequent distractions, delays in setup, and errors in task execution. The constant background noise and interruptions made multitasking more challenging.
- Device-Specific Challenges:
 

User B's reliance on a tablet highlighted issues with interface scalability and navigation, as the LMS is not fully optimized for smaller screens.
- Preparation and Adaptation:

Proactive steps, such as bookmarking LMS pages or using headphones, mitigated some environmental challenges, as demonstrated by Users C and D.

## **Opportunities for System Improvements**

- Improved Interface Design:
  - Enhance the visibility and accessibility of key features like the "Assignments" tab and "Submit" button. Clearer visual cues and simplified navigation can minimize user errors and hesitations.
  - Optimize the interface for smaller screens to ensure seamless usability across devices, particularly tablets and smartphones.
- Enhanced Error Messaging:
  - Provide clearer and more detailed error messages, especially for issues like file format mismatches, to help users resolve problems efficiently.
- Streamlined Navigation:
  - Introduce customizable dashboards or quick-access menus to allow users to personalize their LMS layout. This would help them locate assignments or frequently visited sections faster.
- Mobile-Friendly Features:
  - Develop a mobile app or responsive design enhancements to improve usability for users relying on tablets or smaller devices.
- Guided Instructions:
  - Provide step-by-step guidance for the assignment submission process, including a progress tracker or reminders for critical steps like clicking "Submit."
- Improved Assignment Instructions:
  - Standardize and clarify assignment instructions to reduce ambiguity and ensure that expectations are clearly communicated.
- System Performance Optimization:
  - Address login delays and system lags to improve the overall user experience and workflow efficiency.

## **Reflective Paragraph on Learning Experience**

Conducting this field study provided a profound understanding of the interplay between user behaviors, environmental factors, and system design in shaping the assignment submission process within a Learning Management System (LMS). By observing participants in their authentic study environments, it became evident how diverse contexts—ranging from quiet library settings to bustling coffee shops—directly impacted focus, efficiency, and overall user experience. These observations highlighted that even minor interface inefficiencies, such as the subtle design of a

"Submit" button or poorly labeled tabs, could lead to delays or errors, especially for users under time constraints or working in distracting conditions.

This study revealed the critical role of empathy in system design. Recognizing the unique challenges faced by multitasking users or those using less-than-optimal devices, such as tablets, reinforced the importance of tailoring technology to meet varied user needs. Small enhancements—such as simplifying navigation, improving error messaging, and optimizing layouts for mobile devices—can make a significant difference in user satisfaction and task success. Moreover, analyzing how users adapted to obstacles, such as bookmarking pages or double-checking files, shed light on the resilience and creativity of users in overcoming system limitations.

Additionally, the experience deepened an appreciation for the broader implications of usability on productivity and user well-being. It reinforced that technology should not just meet functional requirements but also reduce stress, eliminate frustration, and promote efficiency for diverse users. This learning journey has been both enlightening and transformative, offering skills and perspectives that will inform future endeavors in designing and evaluating user-focused systems.

## **Conclusion**

The field study demonstrated that while the LMS offers functional features, there are clear areas for improvement in design, navigation, and system performance. By addressing the identified challenges and leveraging user feedback, the LMS can become a more efficient and user-friendly platform. The insights gained from observing user behaviors emphasize the critical role of user-centric design in technology development. Small changes, such as clearer visual cues, responsive layouts, and improved error messaging, can significantly impact usability and satisfaction. Moving forward, iterative testing and incorporating real user feedback should remain a priority to continuously refine the system and align it with user expectations.

Ultimately, fostering an environment that prioritizes usability, adaptability, and inclusivity will enhance the overall student experience. By implementing targeted improvements, the LMS can better support academic success, reduce technical barriers, and empower students to focus on their learning goals without unnecessary distractions.