Front-End Analysis Plan: FuturePath Academy

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Image created using Canva.

Executive Summary

FuturePath Academy (FPA), a fictional K-12 private school conceptualized using AI, implemented a Learning Management System (LMS) to enhance instructional delivery, support data-driven decision-making, and promote personalized learning. However, LMS adoption among educators remains limited. Only 30% of teachers use the system beyond essential administrative functions, restricting its potential to transform classroom practice and engage students meaningfully.

This Front-End Analysis (FEA) explores why the LMS is underused, focusing on practical challenges, like skill gaps and support issues, as well as deeper motivational and cultural factors. Drawing on the Political, Economic, Social, Technological, Legal, and Environmental (PESTLE) framework, as well as Task Knowledge Structures (TKS) and Information Processing Analysis (IPA), we identified critical performance gaps, including poor training design, limited support structures, lack of reinforcement, and cultural barriers such as peer influence and inconsistent leadership messaging.

Using mock data sets, we validated our findings using a mixed-methods approach that combined surveys, interviews, LMS analytics, classroom observations, and task analysis. This approach aligns with Rossett's Purpose-Based Needs Assessment and Choo's environmental scanning model, enabling us to uncover observable challenges and less visible dynamics.

Based on our findings, we propose a set of targeted interventions designed to improve LMS adoption within a six-month window. We will track LMS use and feature adoption, as well as how these tools impact classroom teaching and student outcomes. By addressing technical barriers and social-cultural dynamics, FPA can transform its LMS from a basic management tool into a powerful one supporting creative, student-centered teaching.

The following report provides a detailed breakdown of the performance problem, data collection strategy, and targeted interventions designed to improve LMS integration at FuturePath Academy.

Note: All data presented in this report are simulated for instructional purposes and do not reflect actual LMS usage at any real institution.

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Front-End Analysis Plan: FuturePath Academy

FuturePath Academy (FPA) is a fictional private K-12 school in an affluent metropolitan district of Utopia committed to educational excellence (OpenAI, 2025). With substantial city-funded scholarships, FPA attracts high-achieving students and families who value innovative, future-focused education. The academy's mission is to cultivate academic, social, and emotional growth through creative pedagogical strategies, advanced digital tools, and collaborative learning environments. Despite its mission to cultivate future-ready learners through digital innovation, FPA faces a critical barrier: its LMS remains underused in the classroom. This gap directly contradicts FPA's commitment to using cutting-edge tools to personalize learning, foster creativity, and prepare students for a technology-rich future.

To fully understand the external and internal factors affecting LMS adoption at FPA, we utilized the Political, Economic, Social, Technological, Legal, and Environmental (PESTLE) framework. This framework examines factors that influence LMS adoption. By identifying these external drivers, we can align them with internal challenges uncovered during our TKS and IPA analyses. These analyses provide insight into how expert users approach LMS utilization and how educators process information, ensuring that training strategies align with effective learning patterns. Despite alignment with FPA's mission and the availability of digital tools, LMS implementation has not resulted in widespread instructional adoption.

Problem Statement

LMS implementation at FPA has not led to school-wide adoption among educators. Only 30% of teachers actively use the LMS beyond administrative functions. FPA's short-term goal is to increase instructional adoption to at least 50% within six months, with a long-term vision of reaching 80% adoption by the end of the academic year. This goal is feasible due to several factors: the availability of an existing LMS infrastructure, leadership support for digital initiatives, and recent efforts that have built partial familiarity among teachers.

Several factors contribute to underutilization. A primary challenge is the lack of structured training. The existing training materials are often dense and poorly sequenced, leading to cognitive overload and reduced attention. Teachers struggle to integrate LMS features effectively into their teaching practices without a well-designed instructional framework.

Figure 1.

LMS Utilization chart developed from AI-simulated data, OpenAI, 2025a.
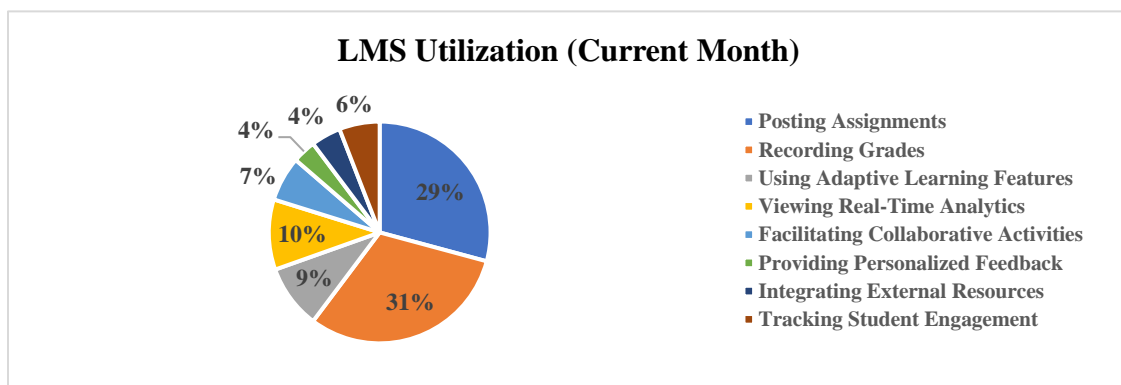
Additionally, there is minimal support for progressive skill development. Educators receive limited training or mentoring, which leads to frustration and stagnation in their ability to leverage LMS functionalities in their instruction. Another issue is the absence of reinforcement mechanisms, such as follow-up training or peer support systems. Finally, instructional barriers and additional challenges, such as time constraints, unclear LMS integration policies, and limited IT support, prevent teachers from fully adopting LMS tools.

We applied the PESTLE framework to better understand the broader context in which this underutilization exists. The following PESTLE analysis contextualizes external influences on LMS adoption at FPA, identifying funding gaps, legal compliance challenges, and evolving technology trends that impact implementation success.

Figure 2

External Factors Affecting LMS Adoption

Political	Economic	Social	Technological	Legal	Environmental
-Local and state educational policies affecting technology integration and funding. -Current government funding fluctuations. -Changes to the Department of Education.	-Budget constraints. -Economic pressures influence schools' ability to invest in training and support.	-Teacher and student attitudes towards technology adoption. -Parental expectations regarding technology-enhanced learning.	-Rapid updates and new functionalities in LMS platforms. -Compatibility of existing IT infrastructure with new LMS requirements.	-Data privacy laws affecting LMS compliance -Licensing regulations for LMS software and educational content.	-School infrastructure constraints include bandwidth limitations and hardware availability. -Sustainability considerations.

For example, rapid updates in LMS platforms mean teachers struggle to keep pace with system changes without continuous training, reinforcing the need for structured onboarding and refresher training sessions. While the PESTLE framework outlines macro-level barriers to LMS adoption, a deeper analysis of instructional strategies is necessary to address internal cognitive and skill-based challenges. While PESTLE highlights external conditions shaping LMS adoption, internal instructional factors also play a critical role. To address these, we applied two key cognitive frameworks, TKS and IPA.

Jonassen et al. (1998) define TKS as a framework that captures expert mental models by analyzing how skilled practitioners execute tasks. This aligns with our approach to modeling expert-driven LMS training strategies to improve adoption rates at FPA.

Figure 3

Task knowledge structure (Jonassen et al., 1998, p.196)

Example of a Task Knowledge Structure
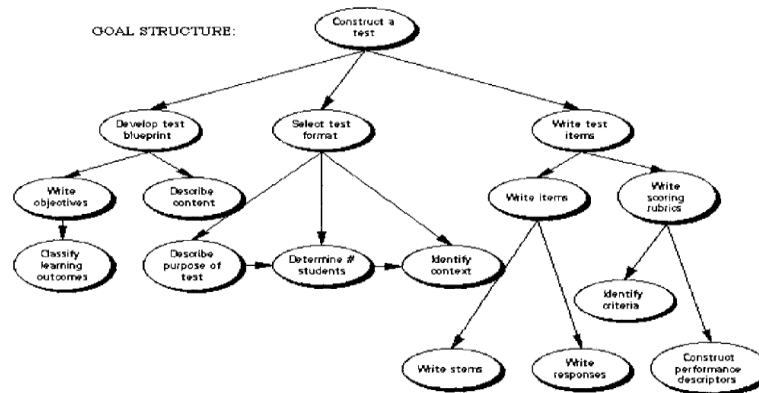
Fig. 19.1. Task knowledge structure.

Regarding IPA, on the other hand, Jonassen et al. (1998) emphasize that effective training design requires structuring learning hierarchically, ensuring prerequisite skills are mastered before higher-level tasks. At FPA, this principle will be applied through a progressive LMS onboarding approach, where teachers learn administrative functions before engaging in advanced instructional features.

Figure 4

Information processing analysis of the scientific method (Jonassen et al., 1998, p.92).
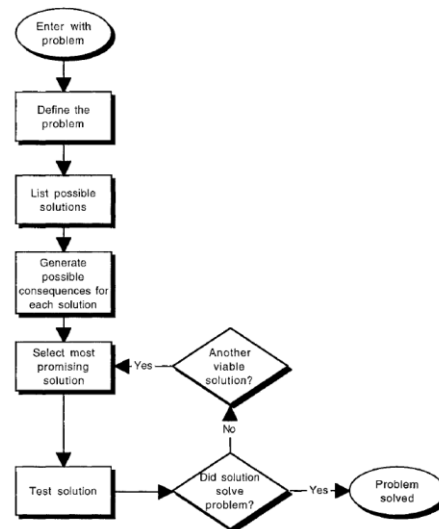
FIG. 9.2. Information processing analysis of the scientific method.

We map TKS insights into IPA principles to ensure LMS training is structured and cognitively optimized. For example, FPA training will start with procedural tutorials before transitioning to adaptive learning applications. This ensures that teachers master foundational skills before engaging with advanced instructional design tools. The table below illustrates the alignment between TKS and IPA in structuring LMS adoption training at FPA:

Figure 5

Alignment of TKS and IPA in LMS Strategy

Component	TKS	IPA
Training Approach	Model expert workflows and best practices	Structuring learning into step-by-step instructional sequences
User Learning Process	Focuses on how expert users navigate and apply LMS tools	Ensures logical sequencing for better retention
Instructional Strategy	Encourages peer mentoring and real-world application	Reduces cognitive overload by introducing concepts progressively
Implementation at FPA	Extract insights from experienced LMS users for training design	Aligns training modules with educators' cognitive load and memory retention

While training strategies provide structure, a robust data collection plan was required to analyze the root causes of underuse.

Plan Front-End Analysis

We will employ a multi-method data collection approach to understand the factors contributing to underutilization. This strategy will combine quantitative and qualitative methods to ensure a well-rounded performance gap analysis.

Figure 6

Data Focus for Front-End Analysis

Method/Tool	Purpose	Data Focus
Teacher Surveys	Establish baseline LMS adoption rates and identify perceived barriers to use.	Teacher familiarity, confidence, perceived usefulness, and barriers
Stakeholder Interviews	Gather more profound insights from teachers, administrators, IT personnel, and students regarding LMS usability and institutional challenges.	System usability, support gaps, training efficacy, and policy constraints
LMS Usage Analytics	Assess actual LMS engagement trends and feature adoption	Frequency logins, feature utilization rates, and real-time user engagement
Classroom Observations	Evaluate practical LMS integration and identify real-time obstacles in instructional settings.	Patterns of use, observed barriers, and classroom technology engagement
Cognitive Task Analysis	Identify cognitive barriers preventing effective LMS adoption	User navigation challenges, decision-making processes, and feature accessibility

Cause Analysis

We applied Harless's front-end analysis framework alongside Chyung's (2008) performance analysis model to deepen our understanding of LMS underutilization. This combined lens allowed us to distinguish between knowledge and skill gaps and deeper motivational, cultural, and environmental barriers. Our analysis revealed that many contributing factors fall outside the

scope of traditional training. Teachers lack clarity around expectations for LMS integration and rarely receive feedback on their usage. Compounding this, there is no formal recognition for effective LMS use, leaving motivated users unsupported and discouraging others from adopting similar practices. These findings reflect organizational misalignment in communication, reinforcement, and performance support.

Although most teachers can use the LMS, many are overwhelmed by competing demands and lack structured skills development opportunities. They lack access to timely support, peer modeling, and tools that reinforce learning. Additionally, some teachers reported apprehension around increased visibility associated with LMS use, fearing judgment from evaluators or peers. This sentiment is reinforced by inconsistent messaging from leadership and the absence of a shared school culture that values technology-enhanced instruction.

In response, we designed instrumentation strategies that align with these challenges. Surveys will be distributed electronically to approximately 80 teachers, with a 75% response goal. Interviews and focus groups will involve a sample of faculty, administrators, students, and IT staff. This mixed-methods approach ensures the inclusion of diverse perspectives and contextual nuances.

These findings illustrate the need for coordinated strategies that address multiple dimensions of the problem. The diagnostic structure, adapted from Harless' front-end analysis model, as outlined by Ripley (2016), is instrumental in identifying performance gaps and guiding subsequent solution development, which is detailed in later sections. Appendix D summarizes how each step in the diagnostic front-end analysis process applies to the LMS adoption challenge at FPA.

Figure 7

Root Causes of LMS Underutilization and Corresponding Data Collection Methods

Factor	Potential Causes	Data Collection Method
Skills Deficit	Teachers lack hands-on LMS experience beyond basic tasks.	Surveys, classroom observations, and training records
Knowledge Gaps	Inadequate training and a lack of awareness about advanced LMS functionalities.	Surveys, interviews, and LMS usage analytics
Environmental Barriers	Limited IT support, time constraints, and unclear institutional policies on LMS integration and usage	Interviews, policy review, focus groups
Motivation	Perception of LMS, lack of incentives for adoption, and resistance to new technologies.	Surveys, analysis of interviews, and surveys

In addition to broad motivational issues, such as resistance to change and a lack of incentives, peer influence may play a pivotal role in LMS adoption. According to social learning theory, educators are more likely to adopt new practices when they observe colleagues using those practices successfully (Johnson & Dick, 2012). Survey and interview items exploring this social modeling effect, such as "I am more likely to use the LMS if I see other teachers doing so

effectively," can reveal cultural dynamics and informal norms that may hinder or accelerate adoption.

Choo's (2001) environmental scanning modes informed our data collection approach, which provided a framework for gathering insights across varying levels of awareness and structure. For example, undirected viewing is reflected in our classroom observations, where we looked for general patterns of LMS use—conditioned viewing guided our analysis of LMS usage analytics and institutional documents. Through informal searching, we gained insights from open-ended stakeholder interviews and conversations. Finally, structured surveys and cognitive task analysis fall under formal searching, helping us systematically identify skills, knowledge, and motivation barriers. Applying Choo's model ensured a well-rounded understanding of surface-level issues and more profound performance gaps.

Figure 8

Triangulation of Data Collection Methods. Image created using Canva
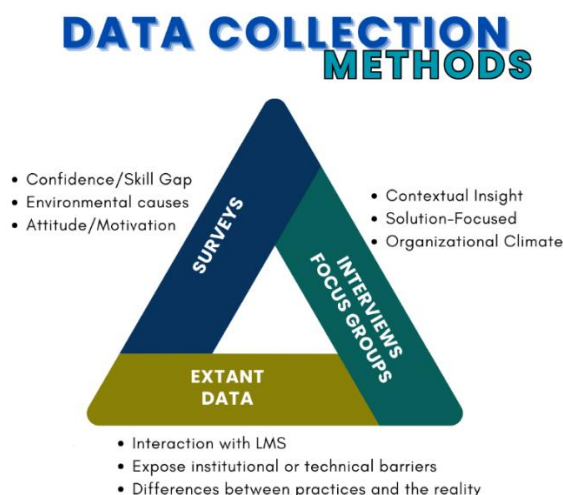
Collection Methods

To further support this analysis, each data collection method selected was chosen for its unique ability to uncover different layers of the LMS performance problem. The following section expands on the purpose of each method and how it contributes to building a complete picture of the issues at hand. To further understand the barriers to LMS adoption, we will implement a mixed-methods data collection strategy using surveys, interviews, focus groups, and extant data. Each method captures a different aspect of the performance problem and aligns with Rossett's Purpose-Based Needs Assessment Model (Rossett, 1987), helping us gather data on actuals, optimals, feelings, causes, and potential solutions.

Surveys will collect input from a broad range of educators regarding their confidence levels, perceived usefulness of the LMS, and barriers to use. For example, items will explore LMS confidence, such as "How confident are you using LMS tools such as real-time analytics or quizzes?" and attitudes, such as "I believe the LMS enhances instructional quality." These items

will help uncover gaps between current and desired performance and gauge motivational and environmental barriers (Kelley et al., 2003). For example:

   a. How confident are you in using LMS tools such as real-time analytics or quizzes?
   b. Which of the following barriers have impacted your LMS use? (Select all that apply: Time, Training Relevance, Technical Support)
   c. I am more likely to use LMS features when I see other teachers doing so effectively.

This last question taps into peer modeling, a motivational factor rooted in social learning theory (Johnson & Dick, 2012). It provides context-specific insight beyond traditional motivation issues like constraints or technical support. The survey instrument was developed using Rossett's Purpose-Based Needs Assessment framework to ensure the quality and relevance of the data collected. Each item addressed one or more data categories: actuals, optimals, feelings, causes, and potential solutions. Instructional designers review the survey to ensure alignment with the performance problem and confirm clarity and practical usefulness. This design process helped ensure that the survey would yield actionable data to inform targeted interventions.

Interviews and focus groups will allow us to probe deeper into the issues identified through the survey. One-on-one interviews offer privacy for sharing frustrations or fears, while focus groups foster dynamic conversations about training gaps, resistance to change, and school culture (Miller & Minkin, 2016). Sample questions include (see Appendix B):

   a. Describe a time when using the LMS enhanced or complicated your teaching.
   b. How do you perceive leadership support of LMS integration in your classroom? This can help surface beliefs about school culture, support systems, and informal norms that impact adoption (Miller & Minkin, 2016).

Extant data such as LMS usage analytics, training completion records, and internal reports will be reviewed to validate self-reported behaviors and assess institutional readiness. For instance, login frequency and advanced feature utilization will provide objective adoption measures. Reviewing technology policies and meeting minutes will reveal patterns in leadership communication and support infrastructure (CDC, 2018; Pershing, 2002; Jonassen et al., 1998).

Each data collection method is strategically selected to inform specific decisions. Survey data will help guide the design of professional development by identifying common barriers and confidence levels. Interview and focus group responses will shape motivational strategies and policy alignment. Extant data, such as LMS analytics and training records, will be used to verify self-reported usage and to identify gaps in support systems or infrastructure. Together, these data sources will support a holistic and actionable intervention plan.

Solution Set Design and Implementation

The following interventions have been designed to align with the 6-month goal of increasing adoption among teachers. Each strategy addresses a barrier identified in the FEA, ensuring a structured and measurable approach to enhancing LMS utilization. The table below outlines each strategy, its objective, the implementation method, and the key stakeholders responsible for execution. We propose targeted interventions aligned with Chyung's (2008) performance engineering principles based on the findings that aim to maximize impact at minimal cost.

Figure 9

Proposed Intervention Strategies for LMS Adoption Improvement

Strategy	Objective	Implementation	Resources	Owner
Professional Development Workshops	Help teachers build confidence and skill in using LMS tools such as automated grading, feedback features, and real-time analytics.	Tiered training for beginners, intermediate, and advanced. In-person workshops and online self-paced modules.	LMS trainers, instructional design specialists, and training materials	IT department and instructional designers.
Peer Mentoring	Create a peer-led support system where experienced users mentor colleagues and model effective practices.	Use experienced LMS users within the teachers as peer mentors	Incentives for peer mentors and structured LMS guidance framework	School leadership
Enhanced IT and Administrative Support	Ensure teachers receive timely tech support by establishing a responsive, dedicated help desk.	Dedicated LMS help desk for troubleshooting and integration support	IT support personnel and help desk software and tools	IT team and administration
Incentives and Recognition Program	Celebrate and reward innovative LMS use through recognition, incentives, and spotlight features.	Recognition for effectively integrating LMS features through: -awards and professional development credits -Performance-based incentives -monthly LMS innovation spotlight showcasing exemplary practices	Policy for incentives, budget, and recognition platform	School leadership
Progressive Onboarding	Make LMS adoption manageable by introducing features gradually through microlearning and step-by-step tutorials.	Gradual exposure to LMS features through micro eLearning and guided tutorials.	Training modules, interactive tutorials	IT department, instructional designers
User-Centered Design Improvements	Continuously refined LMS functionality by collecting user feedback and making responsive design updates.	Periodic usability testing and iterative system updates	User feedback surveys, LMS development team	School administration, IT department

Implementing these solutions will require planning around time, personnel, and budget. Incentive programs, for example, could be supported through existing professional development or school improvement funds, while peer mentors might receive recognition through stipends, release time, or leadership credits. IT staff may need to adjust responsibilities or receive additional training to support a dedicated help desk. To reduce instructional disruption, onboarding and training modules will be embedded into existing PD schedules or delivered asynchronously. These interventions are designed for short-term impact and long-term sustainability, with scalable elements like feedback loops, iterative training, and user-driven design to support ongoing adoption well beyond the initial six-month window.

Projected 6-month Utilization Increase

With targeted interventions, LMS utilization is expected to increase significantly. This increase will be measured through key indicators such as login frequency, advanced feature usage, and teacher-reported confidence in leveraging LMS functionalities for personalized learning. By fostering a culture of continuous support and iterative improvements, FPA can sustain this growth, leading to long-term enhancements in student engagement and instructional effectiveness.

Figure 10

Projected Utilization
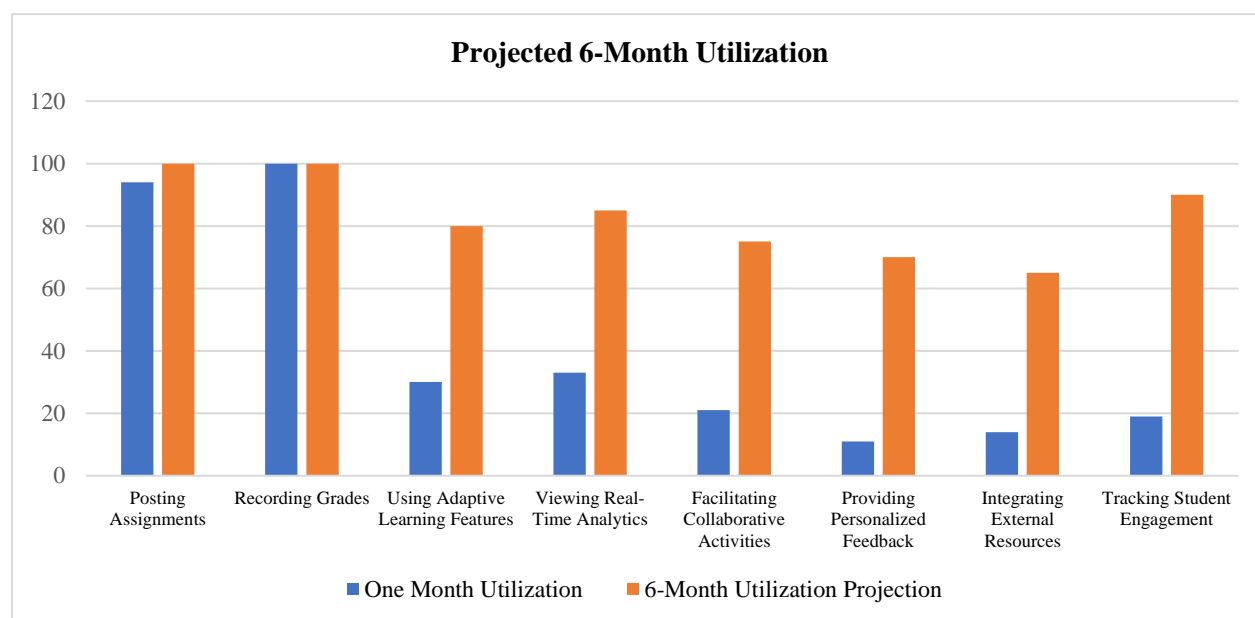
Potential Challenges and Mitigation Strategies

Implementing LMS improvements at FPA presents several potential challenges that must be addressed to ensure successful adoption. The following table outlines key obstacles and their corresponding mitigation strategies, which are designed to promote sustained engagement and maximize the effectiveness of the proposed solutions.

Figure 11

Potential Challenges and Mitigation Strategies

Challenge	Mitigation Strategy
Time Constraints	Embed LMS training into PD schedules and offer flexible, on-demand learning options.
Resistance to change	Use peer mentoring and visible recognition to build buy-in and normalize new LMS habits.
Resource limitations	Tap into free tools and internal expertise to deliver impactful training without added cost.
Technical Support Issues	Set up a responsive LMS support system to ensure teachers can get help when needed.

To ensure that interventions are effective and sustainable, we have developed an evaluation plan grounded in ongoing feedback and usage of metrics.

Evaluation Plan

Evaluating the effectiveness of LMS adoption will require a combination of data analysis and qualitative feedback to measure engagement, instructional impact, and overall effectiveness. The focus will be on LMS usage metrics, teacher and student feedback, and student learning outcomes. By continuously monitoring these factors, FPA can refine its implementation strategy and ensure long-term success.

A primary measure of success will be the LMS engagement metrics. Tracking teacher activity before and after training will indicate whether professional development efforts lead to increased LMS integration. Key indicators include the frequency of logins, the adoption rate of interactive features, and time spent using advanced tools such as discussion forums, real-time analytics, and adaptive learning modules. These insights will assist in determining which LMS features are most utilized and where further support is needed.

Student and teacher feedback will provide critical insights into the LMS's user experience and effectiveness. Surveys will assess usability, perceived value, and any challenges teachers face in implementation. Focus groups also offer a deeper understanding of instructional impact, highlighting successes and identifying barriers not captured in the surveys. Having multiple ways for teachers to provide feedback will allow them to request additional training, suggest improvements, and report any persistent challenges.

Quarterly reviews will assess adoption trends, allowing administrators to refine training programs and address emerging challenges. If data indicates that specific LMS features remain underutilized, targeted workshops or peer mentoring initiatives may be introduced to close the gap. It can also help develop personalized support for teachers who need additional coaching.

Evaluation will also incorporate performance benchmarks aligned to key adoption indicators. The chart below illustrates projected metrics over six months, including increased advanced

LMS feature usage, weekly logins, and teacher-reported confidence. These indicators serve as tangible milestones for assessing the impact of interventions and guiding midcourse corrections.

Evaluation will occur in three phases: baseline (prior to implementation), midpoint (at 3 months), and post-implementation (at 6 months). Surveys and LMS usage reports will be collected and analyzed during each phase. Focus groups will be held at the midpoint and post-implementation to gather qualitative feedback. Evaluation results will be reviewed during monthly leadership meetings to determine if adjustments or additional supports are needed to meet the 50% adoption goal.

The following table illustrates targeted progress benchmarks over six months, including teacher usage rates, LMS feature integration, and confidence levels. It provides a baseline for evaluating intervention effectiveness.

Figure 12

Projected progress indicators based on anticipated intervention impact

Metric	Baseline (Month 0)	Midpoint (Month 3)	Goal (Month 6)
% of teachers using LMS instructionally	30%	40%	50%
Average weekly logins per teacher	2.5	4.0	5.5
% using advanced features (quizzes, analytics, assignments)	10%	25%	40%
Teacher reported confidence (avg. out of 5)	2.8	3.6	4.2
% of teachers completing PD modules	15%	50%	90%

Future evaluations may also examine student engagement and achievement data in LMS-integrated classrooms to assess the instructional impact of adoption. This instructional lens ensures the LMS is evaluated as a tool, but as a means of enhancing teacher effectiveness and student learning. In future data cycles, we recommend tracking indicators such as assignment completion rates, quiz performance, and student feedback on digital instruction. These metrics will help determine whether increased LMS use correlates with improved academic outcomes and more personalized learning experiences. Figure 13 illustrates examples of how teacher LMS adoption of how teacher LMS adoption may be evaluated alongside student outcome indicators, offering insight into the instructional impact of the intervention.

Figure 13

Linking Teacher LMS Adoption to Student Outcomes

Teacher LMS Behavior	Correlated Student Outcome Metric	Evaluation Method
Frequent login and consistent instructional use	Increased assignment completion rates	LMS analytics; gradebook review

Use of quizzes, discussions, and real-time feedback	Improved formative assessment performance	LMS quiz scores; embedded assessments
Personalized learning paths	Higher engagement and reported satisfaction	Student surveys; engagement logs
Timely feedback via LMS tools	Reduced time-to-submission and fewer missing assignments	Assignment timestamps; submission data
Use of collaborative LMS tools	Increased peer interaction and deeper content understanding	Forum analytics; qualitative discussion analysis

Conclusion

Integrating the LMS at FPA requires a strategic, evidence-based approach prioritizing teacher engagement, leadership support, and instructional outcomes. The FEA has identified key barriers, including time constraints, resistance to change, limited training, and insufficient technical support. By addressing these challenges with targeted, research-informed interventions, FPA can ensure the LMS is used to its full potential in enhancing instruction and student learning.

A combination of professional development workshops, peer mentoring, enhanced IT support, and incentive programs will create an environment where teachers feel equipped and encouraged to incorporate LMS tools into their teaching. Beyond system engagement, the goal is to foster more profound instructional change where LMS tools enhance teaching effectiveness and student learning.

With strategic implementation and continuous feedback, the LMS can evolve from a basic management platform to an instructional innovation catalyst. By embedding feedback loops and fostering a culture of peer-driven growth, FPA can position the LMS as a dynamic tool for instructional excellence. The success of this initiative also demonstrates the power of combining diagnostic performance analysis with cognitive learning principles to drive sustainable instructional change.

This integrated framework is rooted in front-end analysis, Rossett's and Harless' needs assessment models, and cognitive task analysis. It offers a replicable approach that other K-12 institutions could adopt to improve digital tool integration. With contextual adaptations, schools across Utopia could apply this model to enhance technology use, teacher development, and student-centered learning.

References

Choo, C.W. (2001). Environmental scanning as information seeking and organizational learning. *Information Research*, 7(1). http://informationr.net/ir/7-1/paper112.htm

Chyung, S. Y. (2008). *Foundations of Instructional Performance Technology.* HRD Press. https://research-ebsco-com.libezproxy2.syr.edu/linkprocessor/plink?id=05105df6-981f-3980-a231-729c97e0e504

Defense Acquisition University (2024, March 13). "Humans Upfront" Human-Centered Design in Front-End Analysis Series Episode 1. https://www.dau.edu/events/humans-upfront-human-centered-design-front-end-analysis-series-episode-1

Jonassen, D.H., Tessmer, M., & Hannum, W.H. (1998). Task Analysis Methods for Instructional Design (1st ed.). *Routledge.* https://doi-org.libezproxy2.syr.edu/10.4324/9781410602657

Kelley, K., Clark, B., Brown, V., Sitzia, J. (2003). Good practice in the conduct and reporting of survey research. International Journal of Quality Health Care, 15(3), 261–266.

Miller, S.D. & Minkin, R.M. (2016). Qualitative Teaching and Learning. Needs Assessment for a Community of Academic Librarians. Journal of Library Administration, 56(4), 416–427. DOI: 10.1080/01930826.2015.1112708

Centers for Disease Control and Prevention (CDC), (2018). Data collection methods for evaluation: Document review (No. 18). U.S. Dept. of Health and Human Services. http://www.cdc.gov/healthyyouth/evaluation/pdf/brief18.pdf

Pershing, J.L. (2002). Using Document Analysis in Analyzing and Evaluating Performance. Performance Improvement, 41(1). 36–42.

OpenAI. (2025). *ChatGPT (Version 4.0)* [Large language model]. https://openai.com

OpenAI. (2025a). *ChatGPT (Version 4.0)* [Large language model]. https://chatgpt.com/share/67be213e-db64-8000-9dbc-3d0285679df1

Appendix A

This project utilized AI to assist in conceptualizing FuturePath Academy, a hypothetical educational institution, with its mission, vision, and institutional context mirroring real K-12 private schools. Additionally, simulated LMS usage data, such as teacher login frequency and feature adoption, was generated using AI prompts to model realistic patterns based on typical LMS implementation challenges in K-12 settings. These data visualizations are not drawn from a real institution but are used for instructional purposes to demonstrate the application of front-end analysis techniques.

Appendix B

Interview Sample Questions

1. Describe how you currently use the LMS in your teaching practices.
2. Which LMS features do you feel more comfortable using? Which ones do you avoid and why?
3. What training or onboarding did you receive when the LMS was first introduced?
4. What is your biggest frustration when using LMS?
5. How do you get help with a feature or issue? Is that support timely and helpful?
6. How do you perceive your peers' attitudes toward the LMS? Do you think this affects your usage?
7. What role do school leaders or administrators play in encouraging or discouraging LMS use?
8. What would it look like if you could design your ideal LMS training?
9. What motivates you to explore and try new LMS features?
10. What would need to change to integrate the LMS into your teaching fully?
11. Is there anything else you would like to share about your experience with the LMS, positive or negative?

Appendix C

Survey Sample

<u>**Directions:**</u> Thank you for taking the time to participate in this survey. Your responses will help us better understand how the Learning Management System (LMS) is used and identify opportunities for improving training, support, and instructional integration.

- ➢ The Survey is divided into four short sections:
    - ○ Usage and Frequency – How often and in what ways you currently engage with the LMS, focusing on feature usage and instructional application.
    - ○ Confidence and Perception – Your comfort level with LMS tools and perceptions of their usability and impact on instructional quality.
    - ○ Barriers and Support – Key obstacles you face when using the LMS. Evaluate the level of support available to help overcome those challenges.
    - ○ Open Feedback – Space to share any additional insights, challenges, and/or ideas you think we should consider.
- ➢ Some questions in this survey use a Likert scale, which asks you to rate your level of agreement or confidence on a scale. These questions help us gauge your perceptions and experiences more accurately.
    - ○ Confidence scale ranges from *Not Confident* to *Very Confident*
    - ○ Agreement scale ranges from *Strongly Disagree* to Agree Strongly
- ➢ Some questions allow multiple selections, while others ask you to choose only one response.
- ➢ For open-ended responses, feel free to provide as much detail as you are comfortable sharing.
- ➢ This survey should take approximately 12 – 15 minutes to complete. All responses are anonymous and confidential.

Note: *If you encounter any issues, please contact a Dream Team Consulting Squad representative.*

Section 1. Usage and Frequency

1. How often do you log into the LMS each week?

☐0 times   ☐1 – 2 times ☐3 – 4 times ☐5+ times

2. Which of the following best describes your current instructional use of the LMS? *(Check all that apply.)*

☐Gradebook   ☐Assignments   ☐Quizzes   ☐Discussions   ☐Analytics

3. When planning a lesson, how often do you intentionally integrate LMS features into your instructional strategy?

☐Never   ☐Rarely   ☐Sometimes   ☐Often   ☐Always

4. What type of instructional activities do you currently support using the LMS? (*Check all that apply.)*

☐Posting assignments only   ☐Grading and providing feedback
☐Using LMS for real-time instruction   ☐Designing personalized learning pathways
☐I do not use LMS for instruction

Section 2. Confidence and perception

5. How confident are you using the following LMS features? (Check one box per row.)

LMS Feature	Not Confident	Slightly Confident	Moderately Confident	Confident	Very Confident
Creating quizzes or assessments	☐	☐	☐	☐	☐
Using real-time analytics	☐	☐	☐	☐	☐
Embedding multimedia content	☐	☐	☐	☐	☐
Personalizing assignments	☐	☐	☐	☐	☐

6. Please indicate your level of agreement with the following statements:

Statement	Strongly Disagree	Disagree	Agree	Strongly Agree
The LMS enhances instructional quality.	☐	☐	☐	☐
I find the LMS interface intuitive and easy to navigate.	☐	☐	☐	☐
I would use the LMS more if it were better integrated into my teaching workflow.	☐	☐	☐	☐
I feel more inclined to use LMS features when colleagues use them effectively.	☐	☐	☐	☐

Section 3. Barriers and support

7. What are your most significant barriers to using the LMS more frequently? (Check all that apply.)

☐Lack of training   ☐Not enough time   ☐Unclear expectations   ☐Technical issues
☐Lack of confidence   ☐Other: _____

8. What motivates you to try new LMS features? (Choose up to two.)

☐Leadership encouragement   ☐Peer recommendations   ☐Student engagement
results   ☐Incentives or recognition   ☐Self-initiative
☐Nothing currently motivates me

9. Which types of support would most help you increase LMS usage in your teaching? (Check all that apply.)

☐One-on-one coaching   ☐Tutorials   ☐Peer observation or mentoring
☐Online resource library   ☐Clear school-wide expectations
☐Incentives or recognition

10. Do you have a colleague you consider a mentor or "go-to" person for LMS support?

☐Yes   ☐No   ☐Not sure

Section 4. Open feedback

11. Which LMS tools do you avoid using, and why? (Short Answer)

12. What would make LMS integration easier or more appealing in your teaching?
(Short Answer)

Appendix D

Is the client having a shortfall in a PRESENT business goal, or does the client have a need to support NEW performance?

Present goal deficit

New performance need

Perform Diagnostic FEA

A. Define the General Problem

1. What business goal is not being met?

FPA's goal to use digital tools for personalized, high-quality instructions is unmet due to limited LMS integration by teachers.

2. What deficit in human accomplishment contributes to the deficit in goal accomplishment?

Only 30% of teachers use the LMS instructionally; most rely on it solely for admin tasks, reducing its impact on student learning.

B. Define the Root Performance Deficit

1. What does an accomplished performer do?

Uses LMS to design lessons, assess students, track progress, and personalized instruction.

2. What is done by a non-accomplished performer?

Uses LMS for basic admin tasks.

3. Compare 1 & 2.

The gap lies in instructional use. Both have access, but non-accomplished performers lack the skills, support or motivation to use LMS tools for teaching.

C. Determine root-cause(s)

1. Hypothesize lack of skill or knowledge causes, environment causes, and motivation causes.

Training or practice on instructional features, limited tech support, unclear expectations, inconsistent leadership messaging, time constraints, no incentives.

2. Gather evidence for and agaisnt each.

Surveys revealed low confidence, interviews showed that PD was limited, lack of IT support and time, LMS analytics show underuse and teachers expressed no formal recognition.

3. Describe causes(s)

LMS underutilization is due to a combination of insufficient instructional training, poor structural support, and low motivation driven by unclear leadership messaging and lack of recognition.

D. Determine solution(s)

1. Define alternative solutions for each cause found

Tiered PDs, LMS help desk, peer mentoring, recognition program

2. Weigh cost and probably effects of each

Low to Moderate; Improved skill, confidence, increased motivation

3. Define solution program to be undertaken

6-month phased rollout that begins with PD and mentoring, supported by help desk and recognition initiatives.

Perform New Performance FEA

A. Define the new performance

1. What organizational accomplishment is to be effected?

Establish consistent, instructional use of the LMS across all grade levels to support FPA's mission of delivering personalized, tech integrated education.

2. What new human accomplishment will be produced?

Teachers will design and deliver lessons using LMS tools to enhance student learning and engagement.

3. What new behaviors will be performed?

Creating digital assessments and assignments, using LMS analytics to differentiate instruction, facilitating asynchronous discussions, providing real-time feedback through the LMS, collaborating with peers via shared course templates.

B. Define the new interventions to be developed and implemented.

1. Define personnel selection process to be followed.

No new hiring is needed, however peer mentors will be based on prior usage data and leadership feedback.

2. Define the new skills, knowledge, or information that will be needed.

Designing instruction within LMS, using tools for data driven decision making, troubleshooting basic platform issues, managing student communication.

3. Define the new work processes & specific behaviors to be done.

Teachers incorporate LMS based tasks for daily instruction, weekly use of analytics, participation in professional learning communities, students complete and receive feedback on assignments within LMS.

4. Define what will be needed in the physical environment.

Reliable internet and device access, updated LMS interface with support documentation, space/time for student to build digital content, help desk access.

5. Define the motivational/incentive conditions needed.

Recognition for high-use teachers, gamified progress dashboards, PD credits or stipends for LMS mentors, publish sharing of LMS integrated lesson examples

C. Plan the design of each of the interventions.

1. Who should design each?

Instructional design team, IT support, Admin team, teacher mentors.

2. In what sequence should the interventions be introduced?

Month 1 - Peer mentoring and PDs

Month 2 - Open help desk

Month 3 - Begin using recognition system

Month 4 - 6 - Monitor use and offer targeted support