

**Measuring the Effectiveness of the Design of a Learning Experience  
on Learner Satisfaction and Success of Customer Training**

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### **Abstract**

This design-based research study investigated how targeted e-learning design elements influenced learner satisfaction and operational effectiveness within a Customer Experience department of an online student enrollment software company. The research addressed two primary questions: how multimedia lessons, interactive materials, help desk articles, and clear instructional text affected learner satisfaction with the learning module, and how the e-learning experience impacted the number of forms-related support tickets submitted to the help center. Data was collected through a mixed-methods approach using pre-course and post-course surveys administered via Skilljar LMS and Google Forms to assess satisfaction and confidence levels, complemented by quantitative analysis of help desk ticket analytics comparing submission patterns before and after course implementation. Twenty participants from the Customer Experience team, including Customer Experience Managers, Implementation Specialists, and Technical Support Specialists, completed the asynchronous e-learning module focused on form-building competencies in the enrollment software. Results demonstrated that 91% of learners achieved "Satisfied" or higher satisfaction levels, with interactive quizzes, video walkthroughs, and structured content organization identified as primary satisfaction drivers. Concurrently, forms-related support tickets decreased by 44.2% from 43 in 2024 to 24 in 2025, indicating measurable operational improvement and successful knowledge transfer that reduced reliance on technical support systems.

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## **Chapter 1: Introduction**

### **Instructional Problem**

Customer Experience (Cx) Department members work with an online student enrollment software that collects forms, runs lotteries, and assists schools and school districts with their specialized enrollment processes. Cx team members struggle to 1) efficiently build forms, 2) assist in editing forms for customers, and 3) teach customers how to build and edit their forms themselves.

Particularly, Cx team members struggle with 1) creating questions that rely on conditional logic and rules, 2) creating form steps that break up the form logically into smaller sections, and 3) understanding how to organize and edit forms to be efficient for parent/guardian users to submit and manage their forms. This lack of knowledge creates poor customer service experiences and errors in the form-building and editing process, resulting in more support tickets submitted through the help desk portal.

The Cx department aims to create expert form builders who can create forms from scratch that are efficient, usable, and effective at gathering all required information from users with no redundancies or errors. Learners should become subject matter experts who are capable of teaching customers how to use the form builder.

### **Research Topic**

The research will investigate how targeted education on the form builder feature of the enrollment software impacts learner satisfaction, confidence, and proficiency in the implementation and usage of the proprietary school enrollment software.

The study will focus on how the design elements of the e-learning experience (multimedia lessons, interactive materials, help desk articles, and clear instructional text) influence the performance of the Cx team. This will, in turn, explore how improved employee performance affects customer success throughout the customer journey. By examining how the design of the learning materials affects employee performance, the research can support employee knowledge development and inform the design of future learning experiences.

### **Research Questions**

1. How do the design elements of the module (multimedia lessons, interactive materials, help desk articles, and clear instructional text) influence the learner's overall satisfaction with the learning module?
2. How does the e-learning experience affect the number of support tickets submitted under the "forms" topic in the help center?

### **Research Purpose**

This study aims to explore how effective the e-learning experience is at creating subject matter experts within the company. Specifically, the study will examine how the various learning materials (multimedia lessons, interactive materials, help desk articles, and clear instructional text) affect learner satisfaction and confidence and, in addition, how employee performance improvements affect customer satisfaction and knowledge.

## **Chapter 2: Literature Review**

### **Introduction to the Literature Review**

I am interested in how an e-learning experience's design elements help to influence an adult learner's satisfaction with the learning materials and process. To explore this idea, I began this literature review by researching adult e-learning in a corporate environment. I honed in on a few significant themes as I conducted my research. The first theme I discovered is the importance of an adult learner's motivation to successfully complete a learning experience and retain information from the learning content. Another theme I discovered is the important of quality in a learning experience that influences and predicts successful learning outcomes. A third theme is how a course's design contributes to learner satisfaction. These three themes come together to really drive home the importance of a well-designed learning experience on the final outcomes of learner satisfaction and success.

### **Motivation in Adult Learning**

Motivation is a major contributing factor to an adult learner's success and satisfaction with a learning experience. Kapp, et al. (2020) notes in the article "Enhancing motivation in workplace training with casual games: a twelve month field study of retail employees"

"Only a third of U.S. employees are engaged at work and slightly over half (50.3%) reporting themselves as "not engaged" and 16.8% reporting themselves as "actively disengaged" and employers are looking for training methods that provide employee engagement in the learning process."

While designing learning experiences, it is essential to remember why an adult learner may be motivated to complete the course content. Consider what makes the learner want to engage with

the materials; does the learner actively want to do better at their job or enhance their skillset? Is the learning experience required training instead of optional? What will make the learner come back to the content and complete it? This method of thinking is referred to as “andragogy”.

Merriam et al. (2020) explain andragogy as being based on a set of assumptions that include 1) self-directedness, autonomous, and independent; 2) the role of experience in learning; 3) readiness to learn what they need to know; 4) learning for application of learning content rather than for future use, being problem-centred and life-focussed; 5) internally motivated; 6) a need to know the value of what it is they are learning.

The best way to motivate an adult learner is by focusing on the following:

1. Highlight the reason for training
2. Emphasize the expectations
3. Prove the payoff from the training
4. Show ramifications of not improving.

For adult learners, training programs must be pragmatic. The content should include realworld applications from which employees learn. (Gabelaia, I., & Bucovetchi, O., 2020)

Continuous workplace learning is important for skill development and focusing on meeting the needs of learning in a corporate environment should be a key factor in the instructional design process. The majority of adult learners rate freedom to learn as most important to their success. Other important facts include choice, control of their learning, a sense of fun, and producing or creating something new (Bonk, 2015). This indicates that designing with learner autonomy and enjoyment in mind should be a top priority.

One way to do this is to consider what types of content will be most effective at generating learner engagement and interest. Video content is very popular, but how effective is it at keeping a learner's interest and positively influencing satisfaction? In "Course Design Approaches and Behavioral Patterns in Massive Open Online Courses for Professional Learning", it's discussed and recommended to directly integrate interactive instructional elements like quizzes into videos (Egloffstein et al., 2023).

Since technology can be a useful tool to enhance learning outcomes, implementing it appropriately can be beneficial to employees' knowledge acquisition and knowledge transformation into practice (Zhang, et al., 2023). This implementation process should include ways to address learner engagement for improved learner outcomes and satisfaction. Learner satisfaction and motivation work hand in hand to create a successful learning experience. For learners, resistance often stems from a lack of motivation or perceived value in online education (Dritsas & Trigka, 2025). Emphasis on creating a valuable learning experience that considers learner motivation is important during the design process.

### **Quality of Learning Predicts the Success of Learner Outcomes**

Learning outcomes are affected by educational satisfaction, which plays a significant role in the direction of the learning experience design process. High quality materials lead to stronger learner engagement predicting the success of learner outcomes. "Factors affecting educational satisfaction include self-directed learning readiness, professor-student interactions, learning immersion, course content, and course design" (Park & Kim, 2022). These all affect the quality of learning materials and experiences. The results of Park & Kim's study indicated a direct correlation between the design of the learning experience and learner satisfaction and success.

It is known that a negative perception of the learning experience can lead to unfavorable learning outcomes (Kauffman, 2015). Since online learning can lead to negative emotions (such as frustration, anxiety, or shame) when courses are poorly designed, focusing on producing high quality materials can help to mitigate this negative perception. Course objectives should not only align with the content and assessments, but also with the presentation of the content and assessments.

In corporate learning, it is logical to “tailor learning toward immediate business objectives rather than broadly cultivating analytic thought. Transmitting established knowledge, skills, and behavioral norms precedes questioning assumptions underlying workplace operations.” (Evanick, 2024). There is an impetus for adult learner’s to continuously upskill and reskill to remain relevant in their professional lives.

### **Course Design Contributions to Learner Satisfaction**

Yu (2024) notes that “possible factors accounting for poorer engagement and lower satisfaction are poor course design and poor pedagogy in online learning.” and their opinion is that “learning satisfaction is the feeling or attitude of learners toward learning activities, which directly reflects the degree to which learners’ expectations are fulfilled during the learning processes”. Taking this into account, the course design significantly contributes to learner satisfaction, particularly for adults in a corporate environment. It’s important to design with an adult learner perspective in mind. This is especially true for older adults and should involve designing with varying backgrounds, cultures, preferences and ages in mind. According to Sharpe and Elwood (2024), adults aged 55 and above favor practical, visual learning approaches.

This suggests that a focus on video content, visual diagrams, and annotated graphics will significantly contribute to the satisfaction of older (and likely younger) adult learners.

In general, course design should cater to the intended learner audience. As Lysitsa & Mavroeidis (2024) state:

The design of courses ... should be directed to make learning experiences more useful for students. Task value, satisfaction and achievement were also found to have significant implications in the persistence of students. This means that students with high achievement levels tend to continue their studies, and therefore reduce the drop-out rate.

Something to keep in mind is that “Adult-learners are internally motivated, autonomous, and have the life experience needed to self-direct and self-manage.” (van der Stap, et al., 2024). This means that course design should take an adult learner perspective into account and cater to their needs. An important factor in an adult learner’s needs is the environment in which they are learning; in this case, a corporate office environment. As Ho, et al. (2023) indicates, “finding uninterrupted blocks of time to study in adult learners’ busy schedules may be challenging because of their many other commitments and responsibilities.” Designing with this in mind can help to contribute to learner satisfaction.

## **Conclusion**

Working adults are more frequently depending on online learning to maintain their skillset and relevance in the workplace. Online learning offers convenience and flexibility to adult learners who are balancing a heavy workload and minimal time for self-improvement. It is increasingly important to focus a course design on learner satisfaction and motivation to maintain continuous learning for success in the workplace. Through my research, I have learned

that focusing on high-quality multimedia and visual resources will be well-received by adult learners. I have also learned that catering the materials to include exactly what the learner needs to know without extraneous information or materials will demonstrate value and maintain learner motivation to continue and complete a course. It is important to remember and acknowledge the busy schedules of adult learners and to design materials that are highly relevant as well as inclusive of varying backgrounds, cultures, and ages.

The literature does not heavily address the ways that course design elements influence a learner's satisfaction and success. Rather, my research mostly uncovered literature that states that course design does correlate to higher learner satisfaction and success, with minimal explanations of how the course design affects this. I intend to explore how the actual elements of my course directly relate to learner satisfaction.

### **Chapter 3: Research Methodology**

#### **Instructional Problem Overview**

Customer Experience (Cx) Department members work with an online student enrollment software that collects forms, runs lotteries, and assists schools and school districts with their specialized enrollment processes. Cx team members struggle to 1) efficiently build forms, 2) assist in editing forms for customers, and 3) teach customers how to build and edit their forms themselves.

Particularly, Cx team members struggle with 1) creating questions that rely on conditional logic and rules, 2) creating form steps that break up the form logically into smaller sections, and 3) understanding how to organize and edit forms to be efficient for parent/guardian users to submit and manage their forms. This lack of knowledge creates poor customer service experiences and errors in the form-building and editing process, resulting in more support tickets submitted through the help desk portal.

The Cx department aims to create expert form builders who can create forms from scratch that are efficient, usable, and effective at gathering all required information from users with no redundancies or errors. Learners should become subject matter experts who are capable of teaching customers how to use the form builder.

#### **Potential Solutions**

##### **Solution 1**

One possible solution is to create a series of microlearning activities. This would involve short 1-2 minute videos or interactive walkthroughs focused on one small part of the form builder feature of the software. Using Camtasia and/or the walkthrough tool Tango, a structured

course would be put together in the Skilljar LMS using these short 1-2 minute lessons. An advantage of using this approach is that short, quick lessons will help learners get through the materials without feeling overwhelmed due to lack of time and busy workloads. The team members who would be taking this course have full workloads and struggle to find time to complete work outside of their typical job description. Having the lessons within a longer course be short would help them to feel a smaller time constraint as they can complete lessons over a longer period of time in shorter bursts. A major challenge of this proposed solution is the likelihood of important information being missed. The material is dense and requires detailed knowledge and practice to learn the form builder software feature fully at an expert level. To address this challenge, including optional reading materials (via Help Desk articles) and access to structured practice time or office hours meetings outside of the course may be impactful to learners.

### **Solution 2**

Another solution may be to provide a series of hour-long lunch-and-learn style meetings. These meetings would take place over 3-4 weeks and cover the form builder feature in sections, with time between each meeting for learners to review meeting recordings, practice using the form builder, and log their questions. These meetings would take place virtually using Google Meet and include live training and example demos from an expert in the software. An advantage of this solution is that these meetings would be held in real-time so learners would have the opportunity to ask questions immediately to clarify any confusion they may encounter. This solution could be challenging because learners have minimal time to dedicate to learning and must readily reference any resources on demand. Additionally, the learners may not be available at the scheduled time, leading to some missing out on dedicated question time. To combat these

challenges, multiple training sessions on the same subject matter could be held, giving learners more opportunities to fit this into their schedule. These sessions could be recorded for learners to access at any time after the initial live training.

### **Solution 3**

A third solution to the instructional problem would be a training course in the Skilljar LMS used by the Product Enablement team. This course would contain a series of text- and multimedia-based lessons. A mix of instructional videos, text, articles, and interactive walkthroughs would be combined into one larger training course that learners could take to understand how to use the form builder to create and edit forms. This course would be asynchronously accessible on-demand to fit each individual learner's schedule. An advantage of this method would be that the learners could access the materials on their own time and as frequently as necessary to learn the material. This method would also allow for assessments to be included natively within the UI of the LMS. A major challenge would be the amount of time the learner might require to sit down and dedicate to learning the material on their own. They may lack motivation to self-teach. Making the lessons as interactive and short as possible will be ideal to overcome this challenge. Additionally, highlighting the impact of the material on the learner's expertise and day-to-day work can boost motivation levels.

### **E-Learning Unit of Instruction Description**

I have created a learning module based on my described solution in the previous section. This learning module is titled: "Enroll - Creating & Editing Forms". The target audience will be Customer Experience team members who are Implementation Specialists and Customer Success Managers. This module has been designed to teach learners how to create and edit forms in the Enroll software. Learners will move through the e-learning module to read and view videos and

other media types that will explain how to use the form builder feature and how the form builder works within Enroll. This includes:

- A detailed explanation of the five data models that create the foundation of the form builder, especially definitions of data models and how to use them with forms. A formative assessment that reviews the information covered in the data model lessons is included.
- A review of all the form settings, including form process, step, and field-level settings and what each of the available settings do when enabled and disabled. A formative assessment reviewing important aspects of form settings is available.
- A deep exploration of each field type available (when to use each field type, limitations, how guardians interact with each form field type, etc.) and a formative assessment reviewing field types.
- A comprehensive overview of the form builder tool, including how to create new forms and edit existing forms. This is inclusive of how to test the work done to create and edit forms.
- A summative assessment of the entire course that reviews data models, form settings, field types, and form creation/editing.

By the end of this course, learners will be able to use the form builder to create new forms and edit existing ones. The learning objectives are:

- Students will be able to define a form in the context of Enroll, including its purpose and significance in the student enrollment process.
- Students will be able to locate where forms are found and edited within Enroll.

- Students will be able to identify and explain the various components of form processes, including settings, form types, form steps, and form fields.
- Students will understand how the various components of a form process come together to create a complete form.
- Students will be able to explain what a data model is in Enroll.

Each of the assessments are quizzes of various lengths that ask questions based on the information provided in each lesson. The questions correspond to the learning objectives to determine how well the learner has retained the information that is most important to becoming a subject matter expert at form building in Enroll.

Various learner needs will be encountered during any implementation of a learning module. There are two major ones expected to be encountered during this learning experience:

### **Learning Need 1: Preferred Learning Styles**

Different learners have preferred learning styles. Some learners prefer visual content like videos, infographics, and diagrams, while others learn better through text-based instruction and written explanations. I plan to address this by using text-based lessons that incorporate visual materials throughout each lesson. Learners can choose to watch the videos to get a better understanding of the material. Several how-to videos are included throughout the lessons. This dual-format approach ensures that both types of learners can effectively engage with the content.

### **Learner Need 2: Low Motivation**

Learners will have varying degrees of motivation to complete to learner experience. Since the content is self-paced, learners may struggle to maintain motivation to continue through

the module, particularly because there is a lot of information to learn, as well as having limited time to complete the module. To address this, the module clearly indicates how much time each lesson requires. In addition, the content is broken up into sections and then into even smaller lessons within those sections. This allows the learner to save their progress so they are not forced to complete the entire module in one sitting. They can come back and spend only a few minutes a day whenever they can fit learning time in. This makes the learning experience less intimidating and overwhelming.

Tools used to create the learning materials include Camtasia and Tango. Camtasia is a video recording and editing software. Tango is an online software that creates interactive walkthroughs using animated screenshots and annotations for the user to click through. It simulates an experience as if the user is actively using the website. These two tools will work together and integrate into the learning content so that learners can visually understand the steps required to use the Enroll form builder software.

This e-learning module will address the learning problem by giving learners a top-to-bottom overview of the Enroll form builder. This is accomplished by:

1. Describing data models and how the Enroll database functions within the form builder so that learners understand how to create forms and form fields that effectively capture user information that is useful and accurate.
2. Explaining the foundations of the form builder. Learners will understand how to use the software to create forms, edit forms, and manage form settings.

3. Helping the learner understand why forms are built in specific ways, how to test forms, and best practices for creating forms so that they are prepared to assist customers with issues and questions and teach customers how to use the software.

## **Research Methodology**

### **Method**

This study will be a mixed-method study. Surveys will be conducted to collect data to answer the first research question, and a thorough review of historical and new Help Desk ticket analytics will be conducted to answer the second research question.

The first question, “How do the design elements of the module (multimedia lessons, interactive materials, help desk articles, and clear instructional text) influence the learner’s overall satisfaction with the learning module?”, requires qualitative research to answer. Because of this, an exit survey and a post-course completion survey will gather information from the learner to determine how satisfied they are with the materials presented. The exit survey will be provided to learners directly in Skilljar immediately upon completion of the course, while the post-course completion survey will be 3 days after course completion. The Skilljar survey is short and intended to capture immediate feelings about the course. The post-completion survey is more extensive and will be provided to learners after there has been sufficient time for reflection on the materials provided. Both surveys will ask the learner for their opinions on the course and its content. They will be asked to rate their satisfaction levels along with providing their opinions on the strengths and weaknesses of the course content. Since this question requires qualitative research to answer it, the surveys are intended to gather data from the learners that directly answers whether the learners are satisfied with the learning experience. Other questions included in the survey, will highlight areas of the course that contribute or detract from learner satisfaction in order to make any necessary adjustments to the course content. The Product Enablement team is interested in providing satisfying and effective learning materials so that 1) learners continue to use the available resources and 2) the learning objectives are met. Besides the post-completion

survey and exit survey, there will be a pre-course survey in Skilljar and in a google form. These surveys are intended to capture data about the skill levels of the learners before the course is started. These will also capture information about the learner that will help to categorize them, such as by job title, self-reported skill level, working product line(s), and preferred learning method. It is also important for the Product Enablement team to understand expected challenges and topic interests to plan for future coursework or updates to existing courses.

The second question, “How does the e-learning experience affect the number of support tickets submitted under the 'forms' topic in the help center?” is a quantitative research question and will be answered by reviewing tickets sent to the Help Desk. Tickets reported to the Help Desk can be analyzed based on product line, topic, and submission date. One of the goals of the Customer Experience team is to lessen the number of support tickets that can be resolved with deeper knowledge of the software. Tickets submitted with the “forms” topic selected will be found using the native analytics available in the help desk software. Since filtering can be done using specific dates (including tickets from prior years), the number of tickets submitted after learners complete the course will be compared to the number of tickets submitted prior to learners taking the course. For this specific research, ticket submission dates from July 1, 2025, to July 31, 2025, will be compared to three time periods. The first period will be from July 1, 2023, to July 31, 2023, and the second will be from July 1, 2024, to July 31, 2024. This will establish a typical July ticket number for the forms topic. The third period will be from January 1, 2025, to June 30, 2025. This will establish how many tickets related to the forms topic have been submitted so far in 2025 to determine if ticket numbers on this topic are trending downward.

### **Participants/Stakeholders**

There will be at least 10 participants who are a part of the Customer Experience Team. These participants will be Customer Experience Managers, Implementation Specialists, and Technical Support Specialists. The participants will either be volunteers or selected by their manager to participate in the learning experience. Participants chosen by their manager will be selected based on their job performance. If the manager feels they lack knowledge of the software's forms feature, they will be required to take the course. Those who have been given the opportunity to volunteer for participation have been provided information about what the course will teach them. The Product Enablement Team Manager will be the stakeholder involved in this research project. She is interested in ensuring that learning materials for all products are well-made and effective.

#### **Data Collection Instrument(s)**

Data will be collected using five methods. A pre-course survey will be provided via Google Forms, and additional pre-course questions will be included within the Skilljar course. The Google form survey will be taken by all participants a week before the course starts, and the survey within the course will be taken immediately upon beginning the course. A post-completion survey will also be provided via Google Forms, with an additional exit survey included within the Skilljar course. The in-course exit survey will be taken immediately upon course completion, and the Google form will be taken within a week of course completion. The pre-course surveys are intended to collect information about the learners to help the Enablement team understand the demographics and areas of expertise of anyone taking the course. This information will help to categorize and contextualize post-completion survey responses. The

post-completion surveys will collect the data intended to determine satisfaction levels with the course materials.

The last data collection method will be the report dashboard available with the Help Desk. The data in this dashboard can be used to determine the number of support tickets related to forms submitted before and after the learning experience is completed. Copies of all data collection methods can be found in Appendix B.

### **Data Analysis Technique(s)**

Survey data from all four surveys will be collected into spreadsheets. Data from the pre-course surveys will be combined and the data from the post-course surveys will be combined. The pre-course surveys are intended to collect information about the learners that will help to contextualize responses to the post-course surveys. Pre-course survey data will be used in conjunction with the post-course surveys to determine:

1. The percentage of learners satisfied with the course
2. The percentage of learners dissatisfied with the course
3. If learners are more or less satisfied with the materials based on prior experience with the software
4. If satisfaction levels appear to be impacted by any self-reported challenges
5. If learner satisfaction correlates with learner success within the course

Additional questions will be used to gather opinions about what makes the course successful or unsuccessful, as well as any materials that may need to be adjusted. The Content Analysis technique will be used to interpret collected responses and find patterns in the shared opinions of the learners. Some questions in the Post-Completion Survey asking “How satisfied

are you with the course overall?” require scale responses (1-5, with 1 being Very Dissatisfied and 5 being Very Satisfied) will be evaluated using Descriptive Statistics. The mean and mode of these responses will be calculated and used to determine satisfaction levels with the course. This same Descriptive analysis approach will be applied to the questions “How confident do you feel in applying what you’ve learned?” (A 1-5 rating scale) as well as “The content was appropriately challenging.” (1-5, with 1 being Strongly Disagree and 5 being Strongly Agree). This will also be applied to the learner confidence rating questions in the Pre-Course survey (How confident are you in your Enroll form builder knowledge?) and the Exit Survey (After this course, how confident are you in your Enroll form builder knowledge?). The responses to these two questions will additionally be compared against each other to determine if there has been a positive change in confidence levels. Lastly, Descriptive analysis will be used to review the Exit Survey question “How satisfied were you with your overall e-learning experience?”. Learners will respond on a scale and these responses will be evaluated for the mean and mode to determine overall satisfaction levels upon immediate completion of the course. The final satisfaction level results from the Exit Survey and Post-Completion Survey will then be compared against each other to establish whether reported satisfaction levels remain consistent after the learners have time to implement what they learn in their day-to-day workload. Remaining questions are qualitative questions. The responses to these questions will be coded for themes to understand if there are consistent issues or other opinions and comments that are found more often in the responses.

Analytics from the Help Desk dashboard will be compared based on date and submitted ticket topics. Data from an appropriate time after course completion will be captured and compared to data from the same timeframe in previous years. This data will be quantitative so can easily be compared across years to determine trends in ticket counts. Tickets submitted with

the “forms” topic selected will be found using the native analytics available in the help desk software. Since filtering can be done using specific dates (including tickets from prior years), the number of tickets submitted after learners complete the course will be compared to the number of tickets submitted prior to learners taking the course. For this specific research, ticket submission dates from July 1, 2025, to July 31, 2025, will be compared to three time periods. The first period will be from July 1, 2023, to July 31, 2023, and the second will be from July 1, 2024, to July 31, 2024. This will establish a typical July ticket number for the forms topic. The third period will be from January 1, 2025, to June 30, 2025. This will establish how many tickets related to the forms topic have been submitted so far in 2025 to determine if ticket numbers on this topic are trending downward compared to historical time periods. The Help Desk dashboard curates data based on filters and displays the data in graphs and charts. Graphs and charts will be generated using the previously described dates and compared to each other using Graphic Depictions and Analysis to determine trends in the number of tickets submitted on the forms topic.

### **Expected Timeline**

The study is expected to start on April 28, 2025. It will end on July 31, 2025, to give participants time to complete the learning experience and to gather enough data from the Help Desk analytics. Participants will be given an expected course completion timeline of two weeks. Data will be gathered from participants and the Help Desk analytics from the time of course completion until the end of the study.

### **Data Security and Confidentiality**

Skilljar and the Help Desk (powered by Zendesk) are inherently secure software. Only authorized individuals (the researcher and the stakeholder) have access to data analytics within these software products, and identifiable learner data is only accessible by the researcher and the stakeholder(s). Once the spreadsheet data has been aggregated and organized by responder, all identifiable information (names and email addresses are the only identifiable information collected) will be removed entirely from the results. Exported data will only be shared between the researcher and the stakeholder. The findings from the data will be communicated within the Product Enablement team, but no data will be directly shared.

### **Conclusion**

Between April 28, 2025, and June 30, 2025, learners participating in the study will take the Creating & Editing Forms course. This mixed-method study is designed to evaluate learner satisfaction with the e-learning module and the effectiveness of the e-learning in reducing tickets related to forms sent to the Help Desk. A combination of surveys and Help Desk analytics will be used to capture subjective learner experiences and to measure the amount of support needed post-training.

These methods will provide insight into how the design elements of the course affect learner satisfaction, which can then be used to help identify the strengths and areas of improvement within the course. Help Desk data will determine whether the learning experience leads to a measurable reduction in form-related support tickets.

Study results will guide future course creation to continuously meet learner needs and provide satisfying and helpful learning materials. The insights gained from this study will support the Product Enablement department's goal of ensuring high-quality, effective

enablement materials that align with both learner needs and organizational goals, with a future goal of directly providing the best learning experiences to customers.

## Chapter 4: Results

### Summary of Research

This design-based research (DBR) study was conducted within the Customer Experience (Cx) Department of an online student enrollment software company. The instructional setting was an asynchronous e-learning course intended to address the following training problem: Cx team members could not effectively build, edit, and train customers to use the software's form builder feature. This deficiency frequently led to user errors, customer usage inefficiencies, and increased forms-related support tickets submitted to the help desk.

This research explored how a specifically designed e-learning module impacted learner satisfaction, confidence, and proficiency. The instructional design of the learning module incorporated multimedia lessons, interactive materials, help desk articles, and clear instructional text to guide learners through complex concepts, including data models, form settings, field types, and form-building best practices.

The e-learning module involved 20 participants from the Cx department, including Customer Experience Managers, Implementation Specialists, and Technical Support Specialists. These participants volunteered or were selected by their managers based on demonstrated need. Their involvement included completing pre- and post-course surveys, exit surveys, and engaging with the learning module.

The e-learning module involved 20 participants from the Cx department, including Customer Experience Managers, Implementation Specialists, and Technical Support Specialists. Customer Experience Managers served as both learners and supervisors who identified team members with demonstrated training needs and provided input on business impact metrics. Implementation Specialists participated as primary learners given their direct role in training

customers on form-building features. Technical Support Specialists functioned as both learners and subject matter experts, providing insights into common customer pain points and ticket trends. Additional stakeholders included the manager of the enablement department, as well as other department managers who facilitated participant selection and scheduling, and help desk analysts who provided historical ticket data and ongoing performance metrics throughout the intervention period.

Data was collected through a mixed-methods approach using qualitative data gathered via the pre- and post-course surveys using Skilljar and Google Forms to assess learner satisfaction, confidence, and their perception of the effectiveness of the learning module. Quantitative data was gathered through Help Desk analytics and reports to evaluate the change in the number of forms-related support tickets submitted before and after the learning module was launched. Historical ticket data was reviewed to identify trends and measure the impact of the learning module.

This research intends to inform future e-learning by identifying which course elements were most effective in supporting employee development and reducing reliance on technical support to enhance the employee and customer experience and success.

## Summary of Results

Learners submitted a pre-course survey to assess their confidence levels and establish a baseline self-assessed competency before the implementation of the e-learning experience. They also submitted a post-course survey that captured satisfaction levels and changes to their perception of their competency. Additionally, data was collected across three years of support tickets submitted on the forms subject (with subcategories: fields, steps, and conditional logic included).

The pre-course survey established a relatively balanced spread of confidence across all skill levels, with 43.5% reporting high confidence (“I’m an expert!” 26.1%, “Very confident” 17.4%), 26.1% reporting medium confidence (“Confident”), and 30.4% reporting lower confidence levels (“Somewhat confident” 26.1%, “Not at all confident” 4.3%). This provided a diverse baseline to measure the effectiveness of the e-learning course design elements across different self-assessed starting competency levels.

Expert-level learners demonstrated strong foundational skills in form-building fundamentals, basic configurations, and form editing. 67% identified conditional logic as their primary weakness, with specific concerns including “adding complex conditional logic at the form level” and “conditional logic troubleshooting”. Very confident learners cited the setup of appeals and recommendations, alongside conditional logic challenges, while confident learners acknowledged their limitations with complex, advanced features, while demonstrating a solid understanding of the form-building feature.

The pre-course assessment identified three critical learning gaps: conditional logic (mentioned by 50% of expert-level learners plus multiple others), advanced configuration features including appeals, recommendations, custom data sources, and complex form

architecture involving multi-step conditional workflows and cross-form functionality. These topics would serve as key indicators for design element effectiveness.

The post-course satisfaction survey demonstrated an overwhelmingly positive learner response to the design elements of the learning module. Out of 22 learners, 91% reported satisfaction levels of “Satisfied” or higher (“Very satisfied” 45.5%; “Satisfied” 45.5%). The remaining respondents reported either “Somewhat satisfied” or “No opinion”. No respondents reported “Not satisfied”. Qualitative analysis of the learner feedback revealed certain design elements may have significantly contributed to satisfaction with the e-learning course, providing clear evidence of the effectiveness of integrating multimedia, interactive materials, and thoughtfully organized content.

The quiz activities stood out as a particularly effective element in the e-learning design. Several learners who rated their experience as satisfactory specifically highlighted quizzes when asked what they liked most about the course. Notably, all learners who mentioned quizzes in their feedback reported a satisfaction level of either “Satisfied” or “Very satisfied” with their learning experience. This correlation suggests that these interactive components played a crucial role in maintaining learner engagement while helping them to retain critical knowledge.

Similarly, the integration of multimedia through interactive video content and visuals/graphics received consistently positive comments, with learners specifically mentioning “embedded videos where needed,” “video walkthroughs,” and “visuals, videos, and interactive material” as contributors to their satisfaction. Video content received praise for its clarity and usefulness in understanding complex concepts (75% of “Very satisfied” learners mentioned videos in their feedback).

Positive responses to the clear instructional text and organized content structure were frequent, with learners commenting on the effectiveness of the content presentation. Several participants noted that the material was “Easy to follow in very digestible chunks. All parts seemed very clear!” while others emphasized the “linear and straightforward” approach to the learning content organization. One respondent appreciated “how clearly it broke down the structure of forms into processes, steps, and fields.” These survey responses suggest that the content structure itself contributed to helping learners to grasp complex concepts more easily.

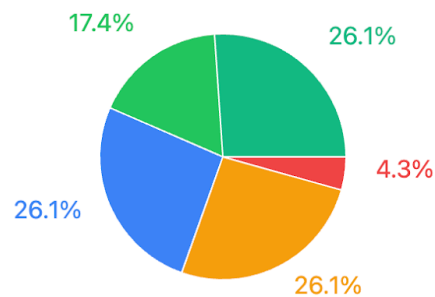
Additionally, learners found the balance between detail and clarity especially effective, describing the content as “very detailed without being overwhelming” and praising “a great breakdown of every section.” This indicates that the design of the learning module was successful in providing a comprehensive breakdown of the information without creating cognitive overload. Less frequently mentioned were help desk articles and other reference materials, but they still received positive praise. One learner commented, “References to articles, very detailed without being overwhelming,” in response to the question, “What did you like most about this course?”, showing that these supplementary resources served their intended purpose of reinforcing key concepts.

The analysis of support ticket data objectively validated e-learning effectiveness by revealing reduced forms-related support requests. Total form-related tickets decreased from 43 in 2024 (pre-implementation of the e-learning module) to 24 in 2025 (a 44.2% reduction). This pattern of improvement suggests the learning content had an impact on requests for support. Category-specific analysis revealed differing impacts of the content. Tickets related to the “Steps” category showed a reduction from 16 submissions to 7. The walkthroughs and content structure seem to have contributed to a reduction in form-building procedure confusion. Tickets

in the “Fields” subcategory were reduced from 24 to 15, further suggesting more comprehension of basic form-building processes. Conditional Logic ticket submissions went from 3 to 2, providing no statistically significant data.

Across the board, data collection revealed that 67% of self-proclaimed experts are still unconfident in their skills regarding conditional logic; this may additionally be supported by the insignificant change in the amount of support ticket submissions on conditional logic.

### Confidence Level Distribution

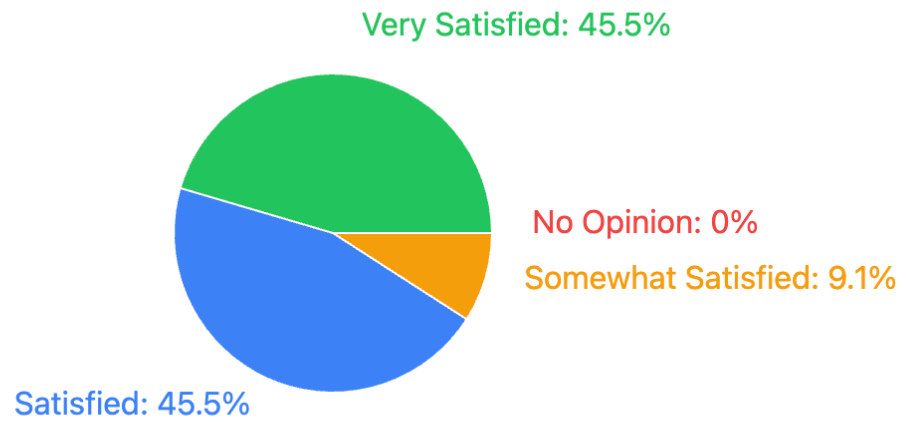


■ I'm an expert! ■ Very confident ■ Confident ■ Somewhat confident ■ Not at all confident

**High Confidence (Expert + Very):** 43.5%

**Medium-Low Confidence:** 56.5%

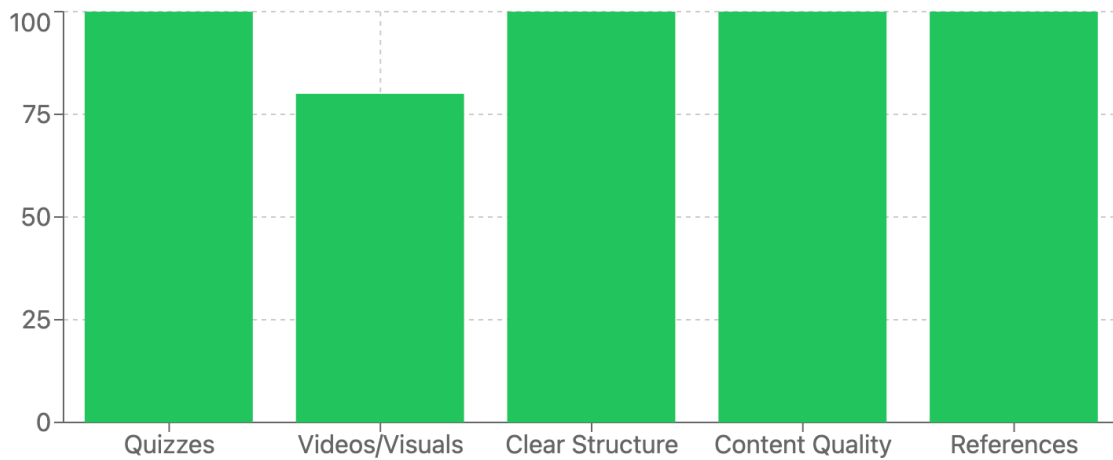
## Overall Satisfaction Distribution



**Total Responses:** 22 learners

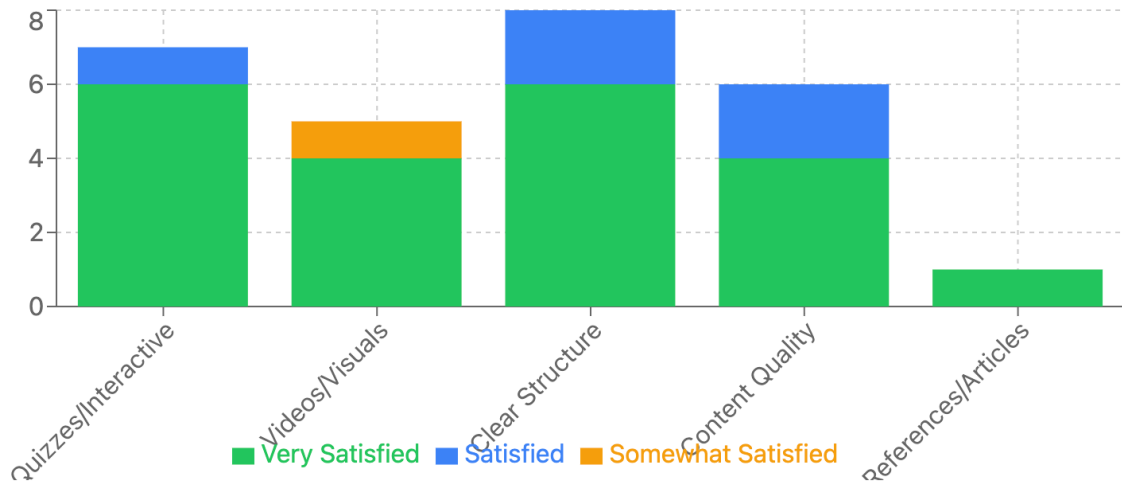
**High Satisfaction (Very + Satisfied):** 91% (20/22)

## Satisfaction Rate When Design Elements Are Mentioned



**Note:** Satisfaction rate = (Very Satisfied + Satisfied) / Total mentions of element

**Design Elements Mentioned in Feedback**

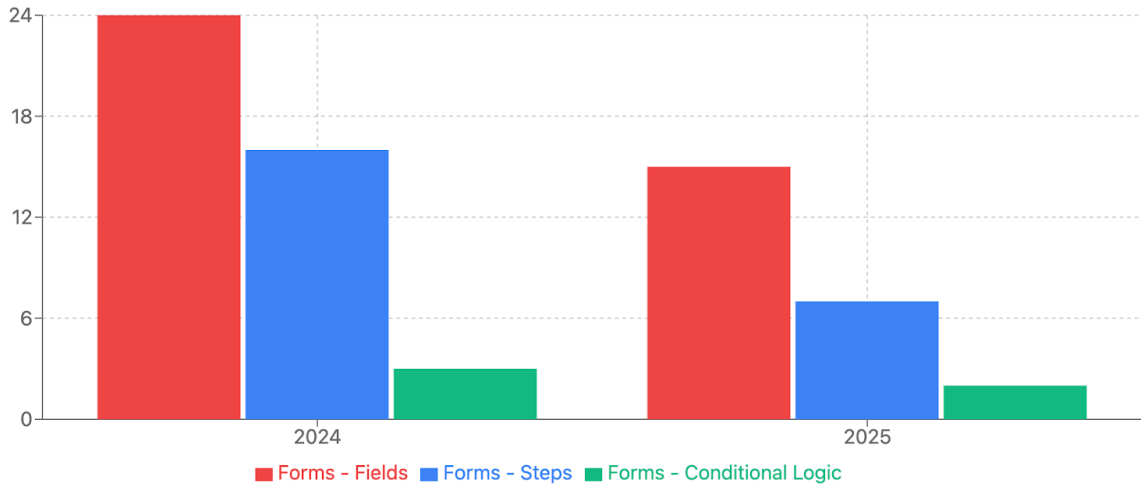


**Confidence vs. Actual Competency Gap**



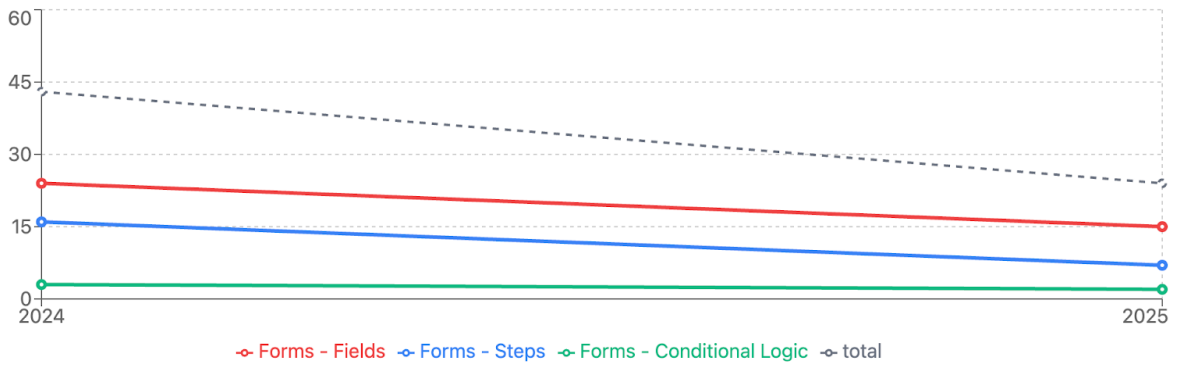
**Competency Ceiling Effect:** High satisfaction doesn't always correlate with complete mastery

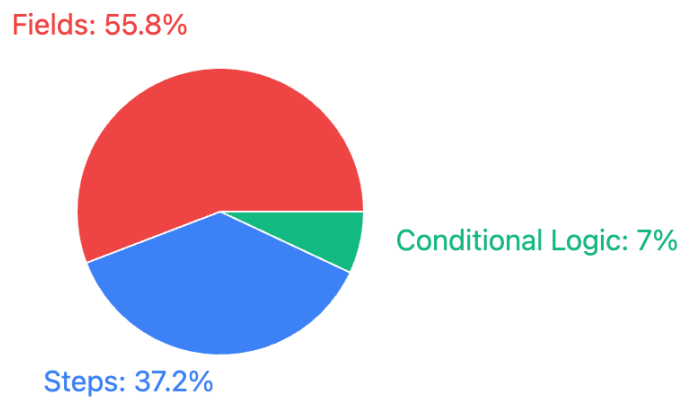
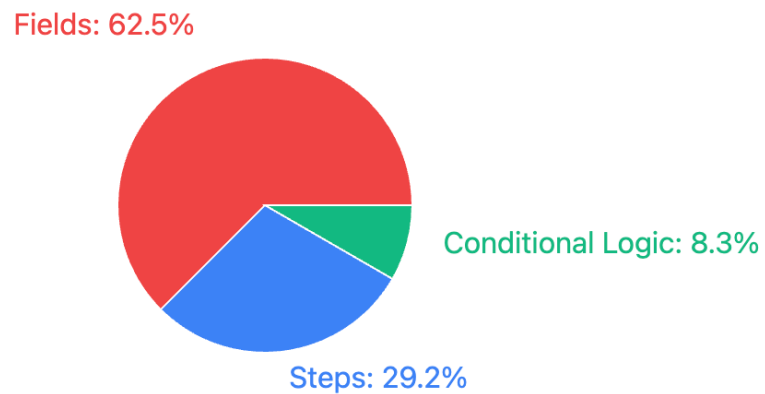
Support Ticket Volume: 2024 vs 2025



Key Finding: All categories showed improvement, with Forms - Steps showing the most dramatic reduction

Ticket Volume Trends



**2024 Ticket Distribution (Pre-Training)****2025 Ticket Distribution (Post-Training)**

Overall, evaluation of the data demonstrated that the design of the e-learning module and its elements contributed significantly to learner satisfaction as well as lowered support ticket submissions.

The pre-course survey established self-assessed confidence levels, which were then compared to reported satisfaction levels from the post-course survey. The post-course survey

showed overwhelmingly positive results, with 91% of learners reporting they were “Satisfied” or “Very satisfied”. Quizzes were the most frequently praised design element, directly correlating with higher satisfaction levels. Additionally, multimedia elements, such as videos and visual walkthroughs, were also cited in feedback as helpful for learning complex concepts. Learners also consistently valued the structured organization of the content. They described it as clear, digestible, and detailed without being overwhelming.

Support ticket analysis provided objective data that helped to determine that the e-learning experience was successful at reducing form-related support ticket submissions (in comparison to the same timeframe from the previous year). This indicates that knowledge gaps have been reduced.

In addition, it was uncovered that the collected data supports a clear connection between effective learning design and operational performance. Design elements that received the most praise from learners also produced the most dramatic support ticket reductions. This implies a direct link between learner satisfaction and measurable business outcomes. This finding demonstrates that well-designed instruction creates value.

The research demonstrates that effective e-learning experiences should rely on a multi-modal approach where quizzes, video content, and well-organized instructional text and modules work together to create satisfying learning experiences for learners. The true strength lies in how these elements complement each other to create a comprehensive learning experience that successfully builds foundational competency while highlighting areas where instructional approaches may need further development to improve learning satisfaction.

During the data analysis process, several potential sources of bias were recognized, including confirmation bias in interpreting patterns related to support tickets, self-reporting bias

in survey responses, and personal bias from the inclusion of any identifiable data in the survey responses. To minimize this bias, positive and negative feedback were quantified to ensure a balanced interpretation of the data. Additionally, stakeholders were presented the data and asked to provide their own data interpretations, to gather multiple viewpoints of the survey results. These steps helped ensure that the analysis presented an accurate and transparent view of how the e-learning experience influenced both learner satisfaction and support-seeking behavior.

**Proposed Iteration(s) of E-Learning Solution**

The research data demonstrates that the e-learning module effectively addressed the core instructional problem of Customer Success team members struggling with form building and editing, as well as training customers on the form builder feature. The learning solution reduced forms-related support tickets by 44.2%, dropping from 43 tickets in 2024 to 24 in 2025. This decreased the help desk burden caused by user errors and customer usage inefficiencies. The most impacted subcategories (Steps and Fields) indicate that the structured content and multimedia lessons effectively eliminated significant form-building confusion. However, a minimal change in “Conditional Logic” tickets reveals that there may be a continued gap in knowledge and learner competency, indicating that the current solution inadequately addresses this complex subject.

While the e-learning module successfully built foundational competency and achieved 91% learner satisfaction, it created a “competency ceiling effect” where high satisfaction did not translate to complete mastery of advanced features. This suggests the solution resolved fundamental training deficiencies but fell short of developing true subject matter expertise for complex functionalities.

Based on these research findings, the proposed iteration would implement an adaptive competency-based learning design that addresses the identified gaps while preserving the effective foundational design elements. This design would incorporate adaptive learning pathways, implementing branching scenarios based on pre-course confidence assessments. Beginners would follow the current successful pathway, while advanced learners would access specialized tracks focusing on conditional logic and advanced configurations. This addresses the feedback that indicates the current design serves beginners well while inadequately challenging

expert-level learners. An interactive simulation would be developed as a sandbox form builder within the learning module, where learners are encouraged to practice conditional logic scenarios without risk. This addresses the critical finding that 67% of experts struggle with conditional logic by providing hands-on practice on top of theoretical understanding of the concepts. The design would expand on the successful quiz format by including drag-and-drop rule builders, interactive case studies, and troubleshooting simulations based on real ticket submissions.

The enhanced e-learning solution would require a mixed-methods research approach, building on the successful elements of the current study, while addressing identified limitations. Quantitative measures would continue to track support ticket counts. Pre- and post-competency assessments using hands-on simulation tasks would be used rather than self-reported confidence and competency levels to measure skill transfer and development objectively. Qualitative measures would continue to measure satisfaction by conducting structured interviews with learners to capture their subjective feelings of the e-learning course. These interviews would also include data captures of learning retention and application at multiple points in time (immediately after completion, and 30 and 90 days after completion). A control group implementation would introduce a randomized controlled trial where some learners complete the original module while others experience the enhanced version, providing more rigorous evidence of improvement effectiveness.

Several improvements to data collection tools would strengthen future research validity by enhancing the representativeness and trustworthiness of the data. Objective competency measurements would replace self-reported confidence scales with performance-based assessments using the simulation environment, where learners would complete standardized form-building tasks of varying complexity, providing objective skill measurement rather than

subjective confidence reporting. Enhanced survey instrumentation would implement validated learning satisfaction scales rather than custom satisfaction questions, improving comparability with other training research and reducing measurement bias. Multi-source data triangulation would collect performance data from supervisors rating on-the-job application of form-building skills, customer satisfaction scores for forms-related interactions, and time-to-resolution metrics for forms-related support tickets. Longitudinal tracking improvements would implement unique learner identifiers to track individual progress over time while maintaining anonymity, enabling analysis of learning trajectory patterns and identification of learners who may need additional support.

Stakeholder validation revealed that when stakeholders were presented with data and asked for their interpretations, there was consensus around the need to address the conditional logic competency gap. Customer Experience Managers identified conditional logic deficiencies as a primary barrier to customer success. At the same time, Technical Support Specialists confirmed that remaining support tickets increasingly involve complex scenarios that current training doesn't address. The business case justification shows that the 44.2% reduction in support tickets demonstrated clear ROI for the initial investment, and the proposed enhancements target the remaining 62.5% of support requests ("Fields" category) and persistent expert-level competency gaps, potentially achieving additional operational improvements. Given that conditional logic issues often require senior technical support specialist intervention, addressing these gaps could yield disproportionate cost savings. The enhanced data collection methodology supports ongoing iteration cycles consistent with Design-Based Research principles, ensuring that future modifications are grounded in evidence rather than assumptions. This approach acknowledges that e-learning effectiveness requires continuous refinement based

on learner needs and organizational changes. At the same time, the proposed iteration maintains the highly successful elements identified in the current research—interactive quizzes, video walkthroughs, and structured content organization—while specifically targeting the competency ceiling effect through more sophisticated instructional approaches for advanced learning outcomes.

## Chapter 5: Discussion

### Conclusion(s) Based on Results

The Design-Based Research study demonstrates that purposefully and strategically designed e-learning experiences has the ability to simultaneously enhance learner satisfaction and deliver measurable operational improvements within corporate training environments. The research findings provide clear evidence that the multi-modal instructional design approach successfully addressed the identified instructional problem of Customer Experience team members struggling with form-building competencies.

The data analysis revealed that 91% of learners achieved "Satisfied" or higher satisfaction levels, establishing a direct correlation between specific design elements and learner engagement. The most significant finding was the identification of interactive quizzes as a primary driver of learner satisfaction, with all learners who specifically mentioned quizzes in their feedback reporting satisfaction levels of "Satisfied" or "Very satisfied." This correlation suggests that formative assessment opportunities serve as knowledge checks and essential engagement mechanisms that enhance the overall learning experience.

The integration of multimedia elements, particularly video walkthroughs and visual materials, emerged as equally critical to learner success. The research demonstrated that 75% of "Very satisfied" learners specifically referenced video content in their feedback, indicating that visual learning modalities effectively supported comprehension of complex software procedures. This finding aligns with adult learning principles emphasizing the importance of varied instructional approaches to accommodate diverse learning preferences and cognitive processing styles.

The structured organization of content received consistent praise from learners who described the material as "digestible," "linear," and "clear without being overwhelming." This feedback validates the instructional design decision to break complex form-building processes into discrete, manageable learning modules rather than presenting information as a monolithic training session. The success of this approach directly addresses the time constraints and competing priorities that characterize adult learning in corporate environments.

The quantitative analysis of support ticket data objectively validates the e-learning module's effectiveness in addressing the core instructional problem. The 44.2% reduction in forms-related support tickets (from 43 in 2024 to 24 in 2025) represents a substantial operational improvement that extends beyond learner satisfaction to measurable business impact. The category-specific analysis reveals that the instructional design was particularly effective in addressing procedural confusion, with "Steps" tickets decreasing from 16 to 7 and "Fields" tickets reducing from 24 to 15.

However, the research also identified a critical competency gap that the current instructional design failed to address adequately. The minimal change in "Conditional Logic" support tickets (from 3 to 2), combined with survey data showing that 67% of self-proclaimed experts remain unconfident in conditional logic skills, reveals a "competency ceiling effect." This finding suggests that while the e-learning module successfully builds foundational competency, it does not adequately develop advanced expertise in complex software features.

The importance of these findings extends significantly beyond the immediate instructional setting. Within the Customer Experience department, the research demonstrates that effective e-learning design can reduce operational burden on technical support teams while simultaneously enhancing employee confidence and competency. The 44.2% reduction in

support tickets represents decreased interruption of expert staff members who previously addressed routine questions that employees can now resolve independently. This operational efficiency allows technical experts to focus on genuinely complex customer issues rather than addressing knowledge gaps that training should have eliminated.

From the perspective of customer service quality, the research findings indicate that better-trained Customer Experience team members can provide more effective support to customers struggling with form-building processes. When internal staff possess a comprehensive understanding of software features, they can more readily identify customer problems, provide accurate guidance, and teach customers to use features independently. This enhanced capability directly impacts customer satisfaction and retention, creating value that extends far beyond the immediate training investment.

The research questions established in Chapter 1 receive definitive answers through the data analysis. The first research question (addressing the impact of learning design on learner satisfaction levels) is answered by identifying interactive quizzes, multimedia content, and structured organization as primary satisfaction drivers. The second research question regarding the impact on support ticket submissions receives clear quantitative validation through the documented 44.2% reduction in forms-related help desk requests.

These findings contribute to a broader understanding of adult learning effectiveness in corporate environments by demonstrating that satisfaction and operational impact are not independent outcomes but interconnected results of thoughtful instructional design. The research validates that when adult learners find training materials engaging and relevant, they are more likely to develop competencies that reduce their reliance on ongoing support systems.

## **Limitations**

Several significant limitations emerged during the data collection and analysis phases that could impact the generalizability and effectiveness of the fully functioning e-learning module. These limitations provide essential context for interpreting the research findings and highlight areas requiring consideration in future implementations.

The reliance on self-reported confidence and satisfaction measures represents a primary limitation in the research methodology. Pre-course assessments of learner confidence levels were based entirely on self-perception rather than objective skill evaluations. This approach introduces self-reporting bias, where participants may over- or under-estimate their competencies based on social desirability factors, imposter syndrome, or lack of awareness of their skill gaps. The disconnect between self-reported expertise and actual performance became apparent in the finding that 67% of self-proclaimed "experts" still struggled with conditional logic concepts, suggesting that subjective confidence measures may not accurately reflect accurate competency levels.

While providing valuable insights into learner experience, the post-course satisfaction surveys are similarly limited by social desirability bias. Participants may have reported higher satisfaction levels than their genuine experience, particularly given that some participants were selected by their managers rather than volunteering. This involuntary participation could have influenced both engagement levels and survey responses, potentially inflating satisfaction metrics while masking areas of genuine concern or dissatisfaction.

The lack of a control group represents a significant methodological limitation that affects the ability to establish causal relationships between the e-learning design elements and observed

outcomes. While the 44.2% reduction in support tickets appears substantial, this improvement cannot be attributed definitively to the e-learning intervention without controlling for other organizational changes, seasonal variations in software usage, or concurrent training initiatives that may have influenced support ticket patterns.

Temporal limitations in the data collection period prevented long-term learning retention and skill transfer assessment. The research captured immediate post-course reactions and short-term support ticket changes but did not evaluate whether learners maintained their improved competencies over extended periods or successfully applied their learning to novel form-building scenarios. This limitation is particularly significant for conditional logic skills, where the research identified ongoing competency gaps that may require sustained practice and reinforcement to address effectively.

Technical limitations within the help desk analytics system restricted the granularity of available data. The categorization of support tickets into broad topics (Forms, Steps, Fields, Conditional Logic) may have obscured more specific patterns of knowledge gaps or successful learning transfer that could inform future instructional design decisions. Additionally, the inability to track individual learner progress through the e-learning module and subsequent support-seeking behavior prevented analysis of personalized learning effectiveness.

The research design did not incorporate external validation of learning outcomes through supervisor assessments, peer evaluations, or customer feedback mechanisms. This limitation prevents verification that improved confidence and reduced support tickets translate to enhanced job performance and customer service quality, which were identified as the ultimate goals of the training intervention.

Finally, the research timeline compressed the evaluation period in ways that may not reflect typical implementation scenarios. While practical for research purposes, the expectation that participants complete the course within two weeks may not align with the competing priorities and flexible scheduling that characterize adult learning in authentic workplace environments. This temporal compression could have influenced both engagement patterns and satisfaction ratings in ways that differ from more realistic implementation timelines.

### **Implications of Research on Educational Practice**

This study's final interpretation reveals critical design principles fundamental to creating compelling e-learning experiences for adult learners in corporate settings. These principles, grounded in 91% learner satisfaction and 44.2% reduction in support tickets, align with established Universal Design for Learning principles and visual design fundamentals.

The research strongly supports UDL's multi-modal representation principle, emphasizing information delivery in multiple formats to accommodate diverse learning preferences. Learners consistently praised the combination of "embedded videos where needed," "video walkthroughs," and "visuals, videos, and interactive material" alongside clear instructional text. Specifically, 75% of "Very satisfied" learners mentioned videos in their feedback, while others emphasized visual elements and graphics. This demonstrates that providing multiple means of representation (through text, video, interactive walkthroughs, and visual diagrams) directly contributed to learner satisfaction and knowledge retention. Future e-learning modules must incorporate varied representational formats as essential components rather than optional supplements, ensuring all learners can access and process complex technical information effectively.

The study validates the critical importance of visual hierarchy in e-learning design. Learners repeatedly described content as "Easy to follow in very digestible chunks. All parts seemed very clear!" and praised "how clearly it broke down the structure of forms into processes, steps, and fields." This systematic content organization created clear visual and cognitive pathways for learners. Visual hierarchy ensures learners can easily navigate different information complexity levels, with clear headings, logical sequencing, and appropriate white space, preventing cognitive overload. When properly implemented, learners perceive content as "detailed without being overwhelming," making this principle essential for managing cognitive load in technical training environments.

Identifying quizzes as the most frequently praised design element demonstrates successful application of UDL's engagement principle. All quiz-mentioning learners reported "Satisfied" or "Very satisfied" ratings. Interactive assessments throughout the module provided multiple opportunities for active content engagement rather than passive consumption. These elements functioned as engagement tools, maintaining learner motivation while serving as learning reinforcement mechanisms. This indicates that effective e-learning design must incorporate varied engagement strategies to sustain interest and promote active learning among adult learners facing competing priorities and time constraints.

The research findings have significant implications for corporate learning environments where adult learners face limited time for skill development. The study's success in addressing foundational competency gaps while maintaining high satisfaction suggests that well-designed asynchronous learning can effectively replace traditional instructor-led training for complex software applications. However, the competency ceiling effect identified—where learners achieved foundational success but struggled with advanced features like conditional logic—

reveals a critical design consideration. Future corporate e-learning initiatives should implement adaptive pathways that differentiate instruction based on learner competency levels rather than assuming one-size-fits-all approaches, balancing efficiency with depth while ensuring expert-level employees receive appropriately challenging content.

This research contributes to instructional design theory by providing empirical evidence that adult learners in corporate environments respond positively to structured, multi-modal approaches when design elements align strategically with learning objectives. The demonstration of measurable business impact alongside high learner satisfaction challenges assumptions that engaging learning experiences require sacrificing operational efficiency. The finding that multimedia elements were most effective when integrated rather than supplementary suggests future instructional design frameworks should emphasize systemic design thinking over component-based approaches, with effectiveness emerging from element relationships rather than individual component quality.

The design principles show promise for application beyond corporate software training. The multi-modal representation approach could benefit healthcare professionals learning medical software systems, where technical accuracy and user confidence are critical. Visual hierarchy appears applicable to any learning context involving complex procedural knowledge, such as financial software training or manufacturing process education. The engagement principle suggests broad applicability to competency-based training programs across industries, with educational institutions potentially adapting these findings by incorporating frequent interactive elements into faculty training modules and transforming continuing education program structures.

Based on the research findings, subsequent module development should incorporate these design elements regardless of content area or learner population. First, every module must include interactive assessment opportunities integrated throughout content rather than relegated to completion milestones. Second, multimedia elements must be strategically selected to reinforce primary learning objectives with clear connections between content modalities. Third, content structure must demonstrate logical progression, allowing learners to build competency systematically while providing clear progress indicators.

### References

- Bonk, C. J., Mimi Miyoung Lee, Xiaojing Kou, Shuya Xu, & Feng-Ru Sheu. (2015). *Understanding the Self-Directed Online Learning Preferences, Goals, Achievements, and Challenges of MIT OpenCourseWare Subscribers*. *Educational Technology & Society*, 18(2), 349–368.
- Dritsas, E., & Trigka, M. (2025). *Methodological and Technological Advancements in E-Learning*. *Information (2078-2489)*, 16(1), 56. <https://doi.org/10.3390/info16010056>
- Evanick, J. (2024). *Transferable Best Practices and Mutual Learning Opportunities Between Instructional Design in Higher Education and the Corporate World: Shared Insights for Instructional Design in Academia and Business*. *International Journal of Advanced Corporate Learning*, 17(2), 63–75. <https://doi.org/10.3991/ijac.v17i2.45555>
- Gabelaia, I., & Bucovetchi, O. (2020). *The Relevance of Corporate E-Learning/E-Training for Job Development: Crafting Culture and Evolving Yourself*. *E-Learning & Software for Education*, 1, 491–498. <https://doi.org/10.12753/2066-026X-20-064>
- Ho, Y. Y., Yeo, E.-Y., & Wijaya, D. S. B. M. (2023). *Turning Coffee Time into Teaching Moments Through Bite-Sized Learning for Adult Learners*. *Journal of Continuing Higher Education*, 71(2), 183–198. <https://doi.org/10.1080/07377363.2021.2024000>
- Kapp, K. M., Valtchanov, D., & Pastore, R. (2020). *Enhancing motivation in workplace training with casual games : a twelve month field study of retail employees*. *Educational Technology Research and Development*, 68(5), 2263–2284.
- Kauffman, H. (2015). *A Review of Predictive Factors of Student Success in and Satisfaction with Online Learning*. *Research in Learning Technology*, 23. <https://doi.org/10.3402/rlt.v23.26507>
- Lysitsa, E., & Mavroeidis, I. (2024). *Critical Factors Affecting Student Satisfaction in a Distance Learning Environment*. *European Journal of Open, Distance and E-Learning*, 26(1), 1–23. <https://doi.org/10.2478/eurodl-2023-0014>
- Marc Egloffstein, Muhittin Sahin, & Dirk Ifenthaler. (2023). *Course Design Approaches and Behavioral Patterns in Massive Open Online Courses for Professional Learning*. *Online Learning*, 27(4), 48–68.
- Merriam, S. B., & Baumgartner, L. M. (2020). *Learning in adulthood: A comprehensive guide*. John Wiley & Sons.
- Park SY, & Kim JH. (2022). *Instructional design and educational satisfaction for virtual environment simulation in undergraduate nursing education: the mediating effect of learning immersion*. *BMC Medical Education*, 22(1), 673. <https://doi.org/10.1186/s12909-022-03728-6>
- Sharpe, S. L., & Elwood, S. A. (2024). *E-Learning Design for Older Adults in the United States*. *Social Sciences (2076-0760)*, 13(10), 522. <https://doi.org/10.3390/socsci13100522>

- van der Stap, N., van den Bogaart, T., Rahimi, E., van Ginkel, S., Nelson, T., & Versendaal, J. (2024). *Supporting adult-learners' online interaction in computer-mediated learning*. *Computers in Human Behavior Reports*, 16. <https://doi.org/10.1016/j.chbr.2024.100551>
- Yu Q. (2022). *Factors Influencing Online Learning Satisfaction*. *Frontiers in psychology*, 13, 852360. <https://doi.org/10.3389/fpsyg.2022.852360>
- Zhang, X., Wu, H., Huang, X., Wu, Q., & Wu, Y. (2023). *How does online employee training enhance organizational growth? The benefits of integrating educational technology into workplace learning*. *Industrial and Commercial Training*, 55(4), 568-579. <https://doi.org/10.1108/ICT-02-2023-0006>

## Appendix A

The e-learning module used as the intervention in this research study was titled "Enroll - Creating & Editing Forms". It was designed as an asynchronous, self-paced learning experience delivered through the Skilljar Learning Management System. The target audience consisted of Customer Experience team members, specifically Implementation Specialists and Customer Success Managers, who needed to develop expertise in using the form builder feature of the software. The module was structured to accommodate the busy schedules and competing priorities typical of adult learners in corporate environments. It had an expected completion timeline of two weeks and flexible pacing, allowing learners to save progress and return to content as their schedules permitted.

The learning objectives established for this module focused on practical, job-relevant skills that would directly address the identified instructional problem. Learners were expected to define forms within the context of Enroll and understand their significance in the student enrollment process, locate where forms are found and edited within the software, identify and explain various components of form processes, including settings and field types, understand how form components integrate to create complete forms, and explain the concept and application of data models in Enroll. These objectives were explicitly designed to transform team members into subject matter experts capable of creating forms from scratch, editing existing forms efficiently, and teaching customers to use the form builder independently.

The module content was organized into five sections built systematically from foundational concepts to advanced application. The first section provided comprehensive instruction on data models, which are the foundation of the form builder functionality. This section included detailed text-based explanations of the five data models used in Enroll,

interactive walkthroughs created using Tango software that provided animated screenshots with click-through functionality, video demonstrations recorded using Camtasia showing real-time navigation and software usage, and a formative assessment quiz to reinforce learning. The second section offered a comprehensive review of form settings at all levels, including process, step, and field-level configurations. Content included detailed textual instruction covering setting locations and functions, visual diagrams and screenshots demonstrating setting effects, video walkthroughs showing the impact of enabling and disabling various settings, interactive materials allowing exploration of setting functionality, and a formative assessment reviewing critical setting applications.

The third section provided a deep exploration of field types available within the form builder, incorporating comprehensive text-based lessons covering each field type's appropriate usage and limitations, video demonstrations showing how guardians interact with different field types, interactive examples illustrating field type functionality, visual comparison charts highlighting differences and best practices, and a formative assessment testing field type knowledge and application. The fourth section focused on practical mastery of the form builder tool itself, featuring a comprehensive video overview of the interface, step-by-step walkthroughs demonstrating form creation from scratch, interactive tutorials showing form editing procedures, testing protocols teaching validation of form creation and editing work, and best practices documentation integrated as help desk articles within lessons. The final section provided course integration through a summative assessment that reviewed all content areas and included practical application scenarios requiring learners to synthesize knowledge across multiple concept areas.

The instructional design incorporated multiple content delivery modalities to accommodate diverse learning preferences and maintain engagement throughout the extended learning experience. Video content created with Camtasia provided visual demonstrations of software navigation and form-building procedures, allowing learners to observe expert-level usage in real-time. Interactive walkthroughs developed using Tango created simulated software experiences where learners could practice procedures without risk of affecting live systems, providing hands-on learning opportunities that bridged the gap between theoretical knowledge and practical application. Clear, structured text-based instruction provided detailed conceptual explanations and served as reference material for learners who preferred reading-based information processing. Visual materials, including screenshots, diagrams, and annotated graphics, supported complex procedures and provided additional reinforcement for visual learners. Help Desk articles were integrated throughout lessons to provide ongoing support and serve as reference materials that learners could access after course completion.

The assessment strategy combined formative and summative evaluation approaches to support learning retention and provide feedback throughout the experience. Formative assessments in the form of quizzes were integrated at the end of each major content section, providing immediate feedback and reinforcing key concepts before learners progressed to more advanced material. These quizzes corresponded directly to the established learning objectives and focused on information critical to developing subject matter expertise in form building. The summative assessment provided a comprehensive evaluation of knowledge retention and application across all content areas, requiring learners to demonstrate understanding of data models, form settings, field types, and form creation procedures in integrated scenarios that reflected real-world application.

Technical implementation relied on a combination of specialized content creation tools and learning management system capabilities to deliver a seamless learning experience. Camtasia video recording and editing software enabled the creation of high-quality instructional videos that demonstrated software usage with clear audio narration and visual highlighting of essential interface elements. Tango interactive walkthrough software produced animated tutorials that simulated actual software usage, allowing learners to experience click-through procedures without requiring access to live systems or risking unintended consequences. The Skilljar LMS provided native tools for quiz creation, progress tracking, content organization, and survey integration, while also supporting external survey connectivity through Google Forms for extended data collection purposes.

The module design addressed anticipated learner needs and challenges typical in corporate training environments. Different learning style preferences were accommodated through the multi-modal content approach, with visual learners supported by video content, interactive walkthroughs, diagrams, and annotated screenshots. In contrast, text-based learners could engage with comprehensive written explanations and detailed instructional content. Interactive elements, including walkthroughs and quiz activities, provided engagement opportunities for kinesthetic learners beyond passive content consumption. Motivation and engagement were maintained through clear connections between content and daily work responsibilities, immediate applicability of skills, achievement recognition through progress indicators, and content segmentation that prevented cognitive overload while allowing flexible engagement patterns.

Supporting materials integrated throughout the module included help desk articles accessible within lessons for ongoing reference, best practices guidelines embedded in

instruction, troubleshooting protocols for common form builder issues, and quick reference guides for complex procedures. Technical specifications ensured broad accessibility through standard web browser compatibility, optimized video content for various connection speeds, and accessibility features including closed captions on videos, screenreader-compatible text, and keyboard navigation support. The comprehensive design represented an evidence-based intervention that addressed the identified instructional problem through adult learning principles, practical application focus, and systematic skill development intended to transform participants into subject matter experts capable of independent form building and customer training.

## Appendix B

### Data Collection Instrument(s)

#### Pre-Course Survey

### Pre-Course Survey: Creating/Editing Forms

Complete this pre-course survey prior to beginning the Creating & Editing Forms course

caitlin.mayer@schoolmint.net [Switch account](#)

Not shared

*\* Indicates required question*

**What is your job title? \***

Your answer \_\_\_\_\_

**What SchoolMint products do you work with? \***

Enroll  
 Hero  
 Recruitment  
 Schoolfinder  
 Legacy SchoolMint  
 Schoolrunner  
 N/A  
 Other: \_\_\_\_\_

**Have you worked with the Enroll form builder before? \***

Yes  
 No  
 Unsure

**What are you hoping to get out of this course? \***

Your answer \_\_\_\_\_

**What specific topics regarding forms are you most interested in? \***

Your answer \_\_\_\_\_

**How do you prefer to learn? \***

Reading  
 Videos  
 Group discussion  
 Hands-on projects  
 Interactive materials  
 Other: \_\_\_\_\_

**Explain any challenges you anticipate encountering while completing this course? \***  
(Time, motivation, tech access, etc.)

Your answer \_\_\_\_\_

**Is there anything else you'd like to share before beginning this course? \***

Your answer \_\_\_\_\_

[Submit](#) Page 1 of 1 [Clear form](#)

Never submit passwords through Google Forms.

This form was created inside of SchoolMint Inc.  
Does this form look suspicious? [Report](#)

Google Forms

How confident are you in your Enroll form builder knowledge?

<input type="radio"/> Not at all confident	<input type="radio"/> Somewhat confident	<input type="radio"/> Confident
<input type="radio"/> Very confident	<input type="radio"/> I'm an expert!	

Where do you currently go to get your product questions answered?

What are your strengths and weaknesses regarding using the Enroll form builder?

**Post-Completion Survey**

### Post-Completion Survey

caitlin.mayer@schoolmint.net [Switch account](#)

\* Indicates required question

**Email \***

Record caitlin.mayer@schoolmint.net as the email to be included with my response

**How satisfied are you with the course overall? \***

1 2 3 4 5

Very Dissatisfied      Very Satisfied

**Did the course meet your expectations? \***

Yes

No

Other: \_\_\_\_\_

**Do you feel you achieved the learning objectives of the course? \***

Yes

No

Other: \_\_\_\_\_

**How confident do you feel in applying what you've learned? \***

1 2 3 4 5

**The content was appropriately challenging. \***

1 2 3 4 5

Strongly Disagree      Strongly Agree

**Were the tools/platforms used in the course accessible and easy to navigate? \***

Yes

No

Other: \_\_\_\_\_

**What was the most valuable part of the course for you? \***

Your answer \_\_\_\_\_

**Are you interested in taking more courses like this? \***

Yes

No

Maybe

**What other topics would you be interested in learning about? \***

Your answer \_\_\_\_\_

[Submit](#) [Clear form](#)

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Does this form look suspicious? [Report](#)

Google Forms

What did you like most about this course?

How satisfied were you with your overall e-learning experience?

<input type="radio"/> No opinion	<input type="radio"/> Not at all satisfied	<input type="radio"/> Somewhat satisfied
<input type="radio"/> Satisfied	<input checked="" type="radio"/> Very satisfied	

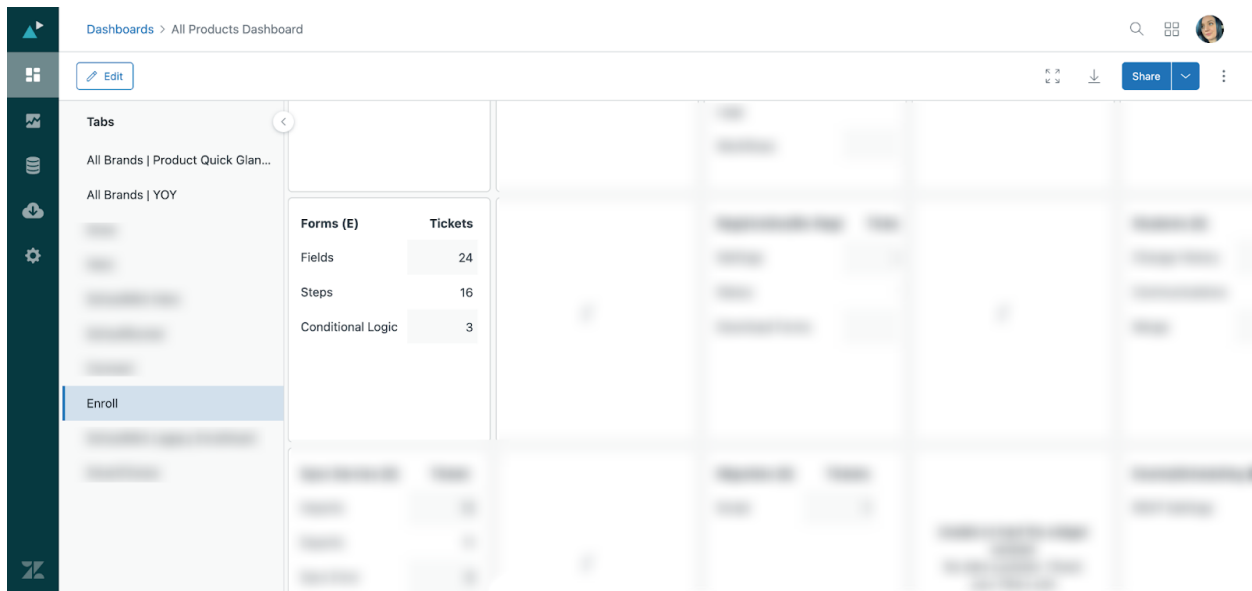
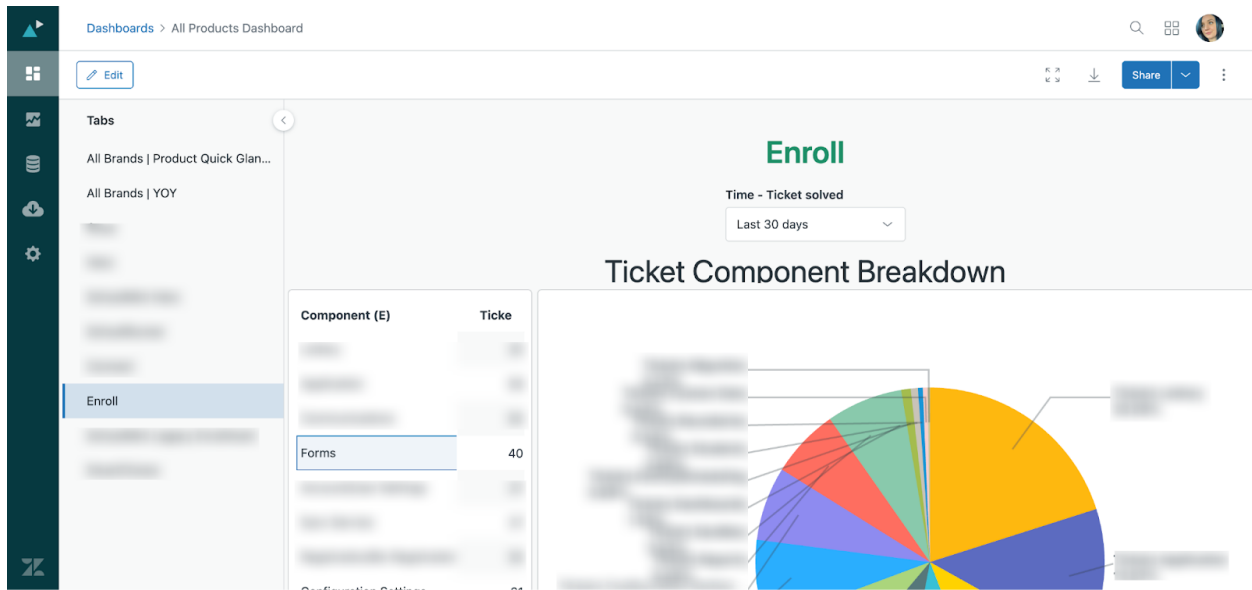
What did you like least about this course?

After this course, how confident are you in your Enroll form builder knowledge?

<input type="radio"/> Not at all confident	<input type="radio"/> Somewhat confident	<input type="radio"/> Confident
<input type="radio"/> Very confident	<input type="radio"/> I'm an expert!	

How do you feel your strengths and weaknesses have changed after taking this course?

### Help Desk Analytics



## Appendix C

4/22/25, 2:56 PM

Western Governors University Mail - Site Permission



Caitlin Mayer &lt;cmaye66@wgu.edu&gt;

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### Site Permission

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Emily Carlson <emily.carlson@schoolmint.net>  
To: cmaye66@wgu.edu

Tue, Apr 22, 2025 at 2:54 PM

Dear Caitlin,

SchoolMint has reviewed your Capstone Research request for study, titled **Measuring the Effectiveness of the Design of a Learning Experience on Learner Satisfaction and Success of Customer Training**, and we agree to support collaboration efforts towards your collection of data in accordance with your description:

This research aims to assess the effectiveness of an e-learning module on "Creating & Editing Forms" through a mixed-method approach. It seeks to answer two main questions:

- **Learner Satisfaction:** How do design elements (like multimedia lessons, interactive materials, help desk articles, and instructional text) influence learners' satisfaction with the course? Data for this will be collected through pre- and post-course surveys, as well as post-course interviews.
- **Impact on Help Desk Tickets:** How does the e-learning experience influence the volume of support tickets submitted under the "forms" topic? This will be determined by analyzing Help Desk ticket data before and after the course.
- **Participants:** The study will involve at least 10 members of the Customer Experience Team, including Managers, Implementation Specialists, and Technical Support Specialists, all of whom will be participating in the e-learning experience.
- **Data Collection:** Data will be gathered through multiple methods: pre-course and post-course surveys (via Google Forms and Skilljar), Help Desk analytics, and optional interviews. These methods will help evaluate learner satisfaction and the course's effect on reducing support tickets.
- **Data Analysis:** The survey data will be analyzed for trends in satisfaction and learning outcomes, while Help Desk data will be compared to identify any reduction in form-related tickets after the course. Findings will inform future course improvements.

Ultimately, the research aims to improve the course's effectiveness and contribute to ongoing development of high-quality learning materials that meet both learner and organizational needs.

Sincerely,

Emily Carlson  
Manager of Product Enablement  
[emily.carlson@schoolmint.net](mailto:emily.carlson@schoolmint.net)

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**Emily Carlson** Manager of Product Enablement

*Student Enrollment Solutions Company of the Year 2025*

