

Introduction

Bergen Community College services 17,000 degree students and a combined 32,000 students in total at three sites in New Jersey: Paramus, Hackensack, and Lyndhurst. The students ages' range from 17 years of age and older, coming from the areas of North Jersey and southern New York State and New York City, with some enrolled internationally or nationally through an online program. The college opened in 1965 with the Paramus campus, then in 1970 with the Hackensack campus (Ciarco Learning Center), and finally in 2008, Bergen Community College at the Meadowlands in Lyndhurst. It is a public, community college that offers Associate degrees in 103 different programs and over 30 certificates.

The IT Help Desk sits under the larger umbrella of the Information Technology department, run by the CIO. It interacts daily with the following teams under the Information Technology purview: Networking, Administrative Systems, Media Technologies, and Document Management. The Help Desk provides front-line support for all technology issues at the college and either solves them or escalates them to the other teams as needed.

Its most recent iteration was created in 2010. Prior to that, the IT Help Desk was contracted out to SunGard systems, who provided on-site technicians and overall technology steerage. Alongside this, the IT department itself went through a number of organizational and management/CIO changes, up until 2014.

The current Help Desk organization is made up of a supervising Managing Director (reporting to the CIO), a Help Desk manager (involved in day to day activities and oversight), and 10 full time and 4 part time technicians. The main Help Desk is physically located in Paramus. The majority of the technicians work in and around this Help Desk, with one full time technician stationed at Hackensack and one full time technician and one part-time technician stationed at Lyndhurst.

Since the analysis project started, the Help Desk has welcomed three full-time technicians and will welcome two more full time and two more part time technicians in the coming months. The analysis included in this paper will study the need for a training and development plan for new hires as well as a plan to reinforce policies, procedures, and troubleshooting techniques for current technicians who are found to be needing enrichment.

Context for Applied Environment

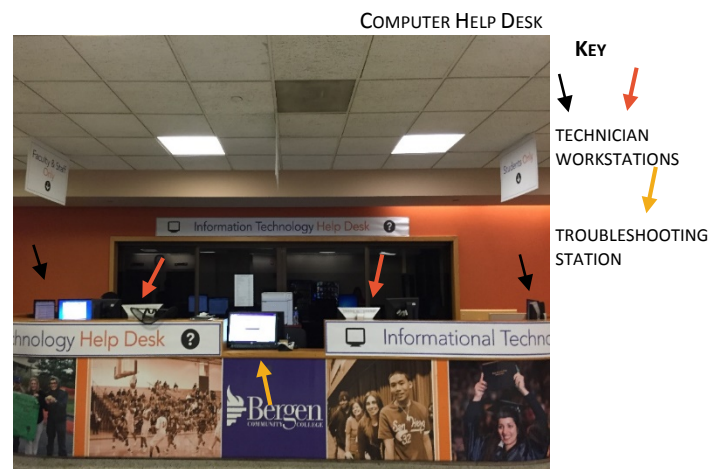
Help Desk Location

The IT Help Desk is an elevated open desk, located in the junction of multiple wings of the main building, near the Student Center and Student Affairs suite. It sees a steady stream of people and activity all day, with the requisite noise and bustle.

Help Desk Configuration

The Help Desk itself is made up of four workstations for technicians, plus a "troubleshooting workstation" where users can attempt to log in to the web portal so technicians can see the error message they are receiving.

At least one part-time or full-time technician is at the desk, with at least one student technician. The technician is responsible for both phone and remote support as well as clients who visit the help desk. Additional technicians may be able to come and assist during peak hours. Often, the technician does not have anyone else there and can only access their supervisor or fellow technicians via e-mail, phone, or leaving the desk if



they have questions. Due to the amount of users, this is sometimes difficult. Currently, training is done piecemeal in between handling different calls by the lone technician at the desk.

There is also a second base for on-site technicians, located in the A-wing on the second floor. The on-site technicians are available by phone in those offices. For on-site calls, the technician is sent from either the office or from the Help Desk to a site on-campus to troubleshoot in person if phone and remote support do not solve the issue in question.

Context for Instructional Environment

New Employees

The context of the instructional environment would be partially office based, and partially at the Help Desk. Taking the learner out of the hectic environment for part of the training will allow the user to concentrate on learning the policies and procedures and will give the learner a quieter place to practice troubleshooting and becoming more comfortable with phone-based troubleshooting and remote troubleshooting when the time comes.

Modification for Re-training Current Technicians

For re-training, the assessment at the beginning of day one would be used to assess the technician's knowledge gap. Then, the trainer would listen in on the technician's calls both away from the Help Desk and at the Help Desk to evaluate the issues that need to be addressed. The trainer will also accompany the technician on on-site calls. Depending on the amount of help the technician needs, this portion of training will take one to two days. Once the trainer and the trainee feel that they are ready for assessment, the trainee will take the final assessment. Depending on the trainee's performance on the assessment, the trainer will see what other aspects need to be reinforced.

Needs Analysis

There is currently no training curriculum for new technicians and nothing with which to re-train technicians who need a refresher or who are found to be resolving incidents incorrectly. Since February 2014, the Help Desk has hired three full time technicians and three part-time technicians. The manager has them sit with the Help Desk technicians for a time and watch them handle calls, and has them go out into the field on occasion. However, there is no training guide, no comprehensive documentation on all the tools used, and no way to be sure that the new technicians have the knowledge and skills necessary to go out into the field on their own. There is also no set timetable for how long a new technician gets for learning the skills and then practice them. There is also no assessment period where the technician can test their new knowledge. The current technicians have had varying levels of training and their troubleshooting knowledge is not consistent.

Every technician hired has a different skillset – some have their degrees in Information Technology, some were student technicians that became staff, and some have customer service experience but no “book-learning”. Some technicians see it as the beginnings of a career and some see it as a job/paycheck and the way they view their job also influences how they view their training in that they are not motivated to solve an incident correctly, just quickly.

A number of newer technicians felt that the training didn't prepare them for being alone in the location. The six new technicians were found to be making mistakes and getting frustrated in their first weeks because they felt that they do not have the documentation needed, the training time needed, and they do not get enough time for practicing skills as most of their training time is spent observing. The current technicians are found to have issues answering user questions consistently and are solving errors in ways that are not correct or following departmental protocols.

When asked, the manager saw the same errors and acknowledged that she had gotten similar complaints in regards to different technicians training the new technicians in different, inconsistent ways on top of the issues mentioned above. The evidence of these complaints can be seen in incidents that are completed improperly, which require more time and complicated effort to fix. Inconsistencies are seen in complaints received from clients in which, for example, a faculty member states that she received a different answer than a colleague for the same issue. Two different technicians handled their incidents differently – one giving them incorrect information and the other giving the correct information.

There is a knowledge gap to overcome. There are at least eight different utilities that need to be used in day-to-day incident management as well as processes and procedures in regards to things like account creation and password resets. A lot of the mistakes and confusion are due to not knowing how the tools work in tandem with each other and not knowing the correct tools to use in different situations.

Also, the training plan would need to address a skills gap – there would need to be time built into a training plan for the new trainee to not only observe their trainer, but also to use the tools themselves.

The trainee would want to get hands-on time, with time to walk it through and talk it through with a trainer the first time, with guidance from the trainer to correct. Only after the user is able to go through an example case correctly without guidance from the trainer would they be assessed at being able to work independently. This would also benefit the current technicians in that the assessment would test what they currently know and find where their skills gaps are.

There will also be an environmental gap. Right now, the techs do not have the documentation available to them in such a way that they can rely on it. A lot of what they are taught is by word-of-mouth and, like the game of telephone, it sometimes gets twisted from the original source. Being able to write down all the word-of-mouth training tips and verifying which are correct and which are not would help our new technicians feel like they are able to confidently do their jobs and would also help the current technicians be consistent.

Lastly, there would be a motivation gap. This is found in the current technicians, not the new technicians. Some of the technicians are not motivated to learn the correct way to do things because they just want to do their job the way they are used to, and then leave. They do not have a desire to learn and grow and sometimes they feel that the way they have been asked to handle an incident by management is not the best way. The project would need to be presented as a way to make their work easier and more efficient by letting them know that the standards found in the help desk guide will standardize and help them do their jobs more effectively.

More information on the needs of the learners would come from the most recent group of trainees and the group prior to them, namely the areas they felt they had the least training in and try to identify knowledge gaps they still have. The manager will also be contacted to see if there are examples of consistently wrong issues that the current technicians may need re-training on.

Learner Characteristics

New technicians are on-boarded without a standard training plan in place. There is no training curriculum for new technicians. They are not given the training or requisite documentation in their first week to set them up for success. There is also no set timetable for how long a new technician gets for learning how to do it and then practice time. There are also no methods of assessment after the training period is complete to check for retention and no way to be sure that the new technicians have the knowledge and skills necessary to go out into the field on their own.

Current technicians are not consistent in what they are training the new technicians. They are often giving out incorrect information to both fellow technicians and clients. They currently have nothing with which to re-train technicians who need a refresher or who are found to be resolving incidents incorrectly. They also do

not have the documentation needed to do their jobs satisfactorily. The current technicians have had varying levels of training and their troubleshooting knowledge is not consistent.

Every technician hired has a different skillset – some have their degrees in Information Technology, some were student technicians that became staff, and some have customer service experience but no “book-learning”. Some technicians see it as the beginnings of a career and some see it as a job/paycheck and the way they view their job also influences how they view their training in that they are not motivated to solve an incident correctly, just quickly.

The general characteristics of the learner group encountered in this project are as follows. The age range of technicians is between 21 and 50 years of age, which defines them as adult learners. Technicians are primarily male, with only four female technicians out of fourteen. Technicians have at least an Associate’s degree – most in Information Technology or a related discipline. Some have Bachelor’s degrees in Information Technology, some do not. Two have advanced degrees (not in Information Technology) but have significant experience in Information Technology in the educational sector. Some of the technicians only have customer service training and no formal IT training. This learners are multicultural and multiethnic and, in some cases, bilingual.

The specific characteristics of this learner group include the following: most technicians have some customer service experience, most have some experience in troubleshooting, and this group is technically literate.

The personal and social characteristics of this group include the following examples. They are generally unmotivated to learn because they are comfortable with how they currently handle issues at the Help Desk. Their skillsets and knowledge vary, as well as their time and experience in Help Desk work. Some technicians want to build their career at Bergen in the IT department, either choosing to stay with the college long-term or build this position into a career in a larger college or university or into the corporate or government sector. On the other hand, some see their positions as just a job, with no plans for personal development. Their overall attitude is that they do not need further training or development and they do not respond well to correction if found lacking in an area of their duties.

Learner Personas

Learner 1 – The “Old-Timer”

Learner 1 has been working at Bergen for many years. Their time at the college pre-dates the current leadership in the IT department. The way they see it, they have been here before the current leadership and will be here after they leave. They are thirty-two, having spent time as a student technician back when they were a student here. They have an Associates in Information Technology from Bergen and have taught themselves most everything else they know. They are self-taught on all other aspects of their job like Apple support. They know almost all the end users, either having helped them before as a student technician or having worked with them when they were a student. They have opinions that the way that leadership is leading them is not the way that is best and they resent the changes that have been made since the new leadership has been established. In some cases, they are openly hostile to the idea of change and to the new leadership.

They see no benefit in re-training or formal instruction. In their minds come the following questions: Why would they need to be re-trained? In their minds, they are doing it “the way it has always been done”. They feel their methods are sound, often meaning that there is less work for them under the guise of helping a student. For example, giving a student a permanent password means they won’t ever have to come back to the Help Desk. They do not agree with the security protocol that is in place in which they have to enforce the students changing their passwords every sixty to ninety days (roughly every semester) for security reasons. They feel inconvenienced. They have stated remarks like the following: “Why can’t the problem just be fixed the way I have done it? It is better for the student to not have to keep coming.” They have also stated that

because of language barriers, it is easier to give out the permanent password because the student “doesn’t understand the rules of the password policy” instead of taking the time to educate the user.

All that matters to this technician is that the technology gets fixed and they get their paycheck at the end of the day.

There is a definite motivation gap. Some of the technicians are not motivated to learn the correct way to do things because they just want to do their job the way they are used to, and then leave. They do not have a desire to learn and grow because it may require more energy and dedication.

There is an environmental gap. Right now, the techs do not have the documentation available to them in such a way that they can rely on it. A lot of what they are taught is by word-of-mouth and, like the game of telephone, it sometimes gets twisted from the original source. Being able to write down all the word-of-mouth training tips and verifying which are correct and which are not would help cut down on the “rogue” information being passed incorrectly between and among the technicians. It will also give them a level of accountability.

This learner is an “I fear change learner” – their motivation for the course is extrinsic. They would only do the training if it was required or it was forced on them.

Learner 2

Learner 2 is a brand new part time hire. They are 22 years old. They were a student worker prior to being hired as a part-time worker. They have an Information Technology degree from Bergen, but they do not have a lot of experience troubleshooting and only have some customer service experience. Most of their coursework was centered on the physical troubleshooting and how to solve the problem, not on how to ask the appropriate questions to the clients.

Their training as student technicians did not involve in-depth troubleshooting as they do not have the security clearance for the tools used by staff technicians at the Help Desk. Also, as student technicians, they were trained by other students. Those students were trained by technicians like Learner 1, which means it was by word-of-mouth and often incorrect. They are interested in the easiest way to solve the issue and often do not have the patience to fully troubleshoot an issue and educate the user.

There is a knowledge gap to overcome. There are at least eight different utilities that need to be used in day-to-day incident management as well as processes and procedures in regards to things like account creation and password resets. There would have to be documentation created on how to handle each problem and how to use the utilities in sequence. A lot of the mistakes and confusion are due to not knowing how the tools work in tandem with each other and not knowing the correct tools to use in different situations. Use cases would be helpful in this case to help guide them through. This would benefit both the new technicians and the technicians having issues.

Even though they are a new part time hire, their previous history as a student technician presents a motivation gap. They were trained by the current technicians, many of them matching the characteristics of the first learner persona. They are also friends with the technicians and often agree with how the older technicians evaluate incidents. This learner would face the same motivation gap as the previous learner.

Additionally, they would face the same environmental gap. Providing them with the documentation and training framework to have correct information and accountability will empower them and keep them accountable to the proper way to evaluate issues and incidents. It will also give them the foundations in customer service so they can express themselves as needed when interacting with users who come to the Help Desk.

This learner is considered to be an “I don’t want to feel stupid learner”. They are insecure in the knowledge they have and protective of the methods they are comfortable with. Their motivation for the course is

extrinsic. They need to be assured that this will help them and be an addition to and will enhance their current skillset in order for them to see that the training is helpful.

Learning Objectives

Remember

- ▶ Recall the Help Desk policies and procedures.
- ▶ Recognize common issues and problems.

Understand

- ▶ Describe basic troubleshooting steps.

Apply

- ▶ Practice successful troubleshooting with use cases.
- ▶ Demonstrate successful navigation of ticketing system.
- ▶ Classify and sort sample initial contact tickets in the ticketing system.
- ▶ Answer client questions accurately and genially via phone, in person and e-mail.
- ▶ Navigate documentation/knowledge base for answers.
- ▶ Assist clients with finding answers in knowledge base.

Analyze

- ▶ Analyze incidents to decide the best method to use from knowledge base.
- ▶ Categorize non-initial support tickets for other departments within IT.
- ▶ Create
- ▶ Create new tickets when new clients contact the Help Desk.

Evaluate

- ▶ Assess knowledge of policies and procedures using online assessment test.
- ▶ Assess troubleshooting skills through client calls and use cases.
- ▶ Re-assess policies and procedures and use cases in combined online assessment test, if re-training is needed.

Message Design Plan

The goal of the training is to Introduce and reinforce policies, procedures, Best Customer Service Practices, and Troubleshooting Techniques. The instruction for the training course for new technicians will be a hybrid online course that will be followed by in-person training and on-the-job practice and evaluation.

New Employees

The training would be partially office based, and partially at the Help Desk, over the course of five days. The first day will involve an online learning component in the office, the second and third will include campus tours and trainer shadowing of all three campuses, and the fourth day would include hands-on training. The fourth day would include office-based and Help Desk based training. The office-based training would concentrate on learning the policies and procedures and will also include trainer-guided phone-based/remote-based troubleshooting practice.

The fifth day would include an assessment in the first half of the day, including an online assessment of policies and procedures and evaluation of incident management at the Help Desk. Depending on the results of the assessment, the rest of the fifth day would include re-training and re-assessment or a return to rotation.

A full breakdown by day and hour of the training schedule will follow this section under Learning Tasks.

Online Learning Modules

Initially, there will be interactive, online learning in the remote office using the Digital Chalk learning management system. The three modules would also include demonstration videos, and Adobe Captivate-generated software simulations, as well as case studies and written documentation and tip sheets. The course will have video integrated into every module, whether it be an instructor or a demonstration of an incident or technology like the ticketing software.

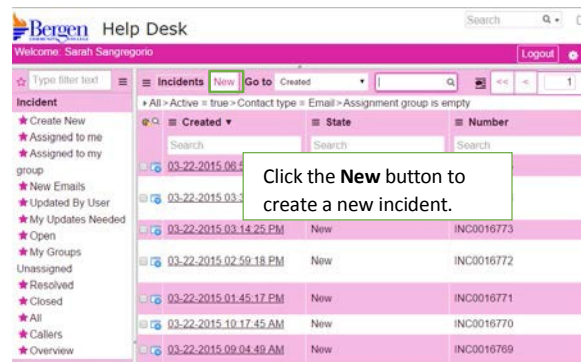


The first module will be general guidelines and customer service basics. This module will include videos on conduct at the Help Desk and multiple choice quizzes for policies and procedures formatted in real-life examples. This module would also include videos on best practices for customer service coupled with use cases. After being introduced to a guideline, the training course would bring the user through a scenario.

For example, one of the guidelines is that the Help Desk does not work on personal equipment belonging to faculty, staff, or students. The use case to go with the guideline would include a client who came to the Help Desk stating they could not log in to the Portal who brought their laptop. The training would include questions on how to best defuse the situation and which procedures and policy would need to be enforced. It would also include the best options to solve the issue, including having the user log in with to the troubleshooting station and explain the “best effort support” used in terms of their personal laptop.

This first module will aim to assist the user to recall the Help Desk policies and procedures and state the basics of good customer service. They will be able to replay the training and, due to the chapter-by-chapter makeup of the course, they will be able to use the course and requisite PDF documentation throughout the rest of the training up to the assessment and after training for assistance.

The second module will have the basics of the ticketing software. This will also be based in the online learning management system. It will include questions and example tickets to help teach the new trainees how to evaluate new e-mails into the ticketing system. The learners would use environments created in Adobe Captivate to learn and practice how to navigate the web-based ticketing system and evaluate and process tickets. This will allow the learner to ticketing system and classify and sort sample initial contact example tickets in the ticketing system.



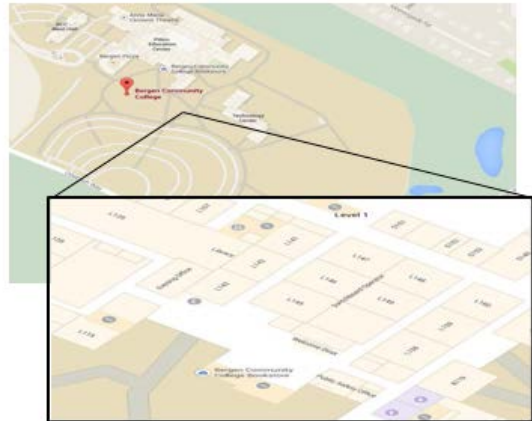
The third module will have use cases to train on troubleshooting techniques. These use cases will include commonly asked questions like guiding users for account-related issues and password resets and the

possible issues they might encounter. It will also include training videos and simulations for troubleshooting issues like initial contact support for smart classrooms – which require knowledge of the different hardware in each classroom. This will allow the learner to describe basic troubleshooting steps and practice successful troubleshooting with use cases.

Campus Tour/Trainer Shadowing

After they have assessed successfully on the online learning, they will progress to shadowing, which will accompany the campus tour. Then, the learner will get a tour of the campus so they have a context for their calls. The campus buildings were built and added on to through 40 years, so there is no rhyme or reason to where different locations are. There are also three campuses in total – each has its own setup and purpose.

The first day would include getting to know the buildings on the main campus while accompanying a technician as they troubleshoot issues. They will be provided with detailed digital maps of the campus with the offices and classrooms labeled, as well as including any information regarding special classrooms or offices with unique setups or technologies.



Examples include the One Stop for Student Affairs and their queueing system Q-nomy, the Chemistry classrooms and their laptop stations and the Moses Meeting Center in the Technology Building, which holds teleconferencing and events.

The learner will listen in and observe as the trainer fields calls and performs troubleshooting tasks. The learner will be able to learn about the locations and the most common issues that arise from different areas in context. The general amount of time would be one day for the main location and half a day each for the other two campuses. This will familiarize them with their working environment and will help them recognize common issues and problems and also reinforce basic troubleshooting steps.

Hands-On Training – Office and Help Desk/On-Site



The fourth day would be for the hands-on portion of the training, the desk they will sit at will have the same exact setup as one of the technician’s workspaces. It will also have the capacity for trainers to listen in on the trainee’s phone calls so they can guide the trainee as they start to take phone calls.

The trainer will be sitting close by or next to them for assistance. They will take phone calls from the queue and also take tickets from the live ticketing system to troubleshoot and resolve them. This will reinforce the training from the practice modules and put it into practice. The trainer will be able to take over a phone call if needed to help steer the trainer in the right direction, if the trainee encounters a difficult client or needs further coaching on a particular incident or issue.

This will allow the learner to apply what they have learned in order to answer client questions accurately via phone, in person and e-mail. They will also navigate documentation for answers to questions, including

utilizing the knowledge base to answer client questions and assist clients with finding answers in the knowledge base. They will also get practical experience in successful navigation of the ticketing system and classify and sort and resolve tickets in the ticketing system. They will also be able to analyze incidents to decide the best method to use from knowledge base as well as categorize non-initial support tickets for other departments within IT.

During the second half of the day, the learner will be introduced to troubleshooting in the Help Desk environment in order for the user to get used to the pace and hectic nature of the Help Desk. The learner will be able to build on the learning objectives above and create new tickets when new clients contact the Help Desk. The second half of the day will involve the trainee and trainer going to on-site calls. The trainer will observe and correct if necessary. The learner will have been made aware of the assessment at the beginning of the training and will be reminded at this time of the exams timing, on their final day of training and encouraged to go over the online training and documentation again.

Assessment/Evaluation

On the fifth day, a final assessment of the learner will then close out the training, as they will be given an electronic assessment that will ask them questions regarding the policies and procedures and evaluate them on their customer service performance and courtesy. This portion of the assessment will involve real-life use cases and customer service roleplaying via multiple-choice responses. The calls will progress depending on the answers given, with a scoring system in place for each response – good, better, best.

To test the learners' troubleshooting skills, they will be presented with a simulation of a common issue like website troubleshooting and will be assessed on successful completion of the steps required. It will include skills like determining the correct buttons to press for media calls and skills like determining internet connectivity and the process for troubleshooting it on the workstation.

At that point, the learner will be evaluated for either further training or graduating from training. The assessment should only take half a day, leaving the last half of the day for future training or returning the trainee to rotation. The goals of the assessment and evaluation will include assessing knowledge of policies and procedures using the online assessment test and assessing troubleshooting skills through client calls and use cases.

If re-training or reinforcement is needed, they would then re-assess after additional training on policies and procedures and use cases in a separate combined online assessment test and observation.

Modification for Re-training Current Technicians

For re-training, a comprehensive online assessment would be used to assess the technician's knowledge gaps. It would include policies, procedures, and best practices for customer service. Then, the trainer would listen in on the technician's calls at the Help Desk and evaluate the technician during on-site calls to evaluate additional issues that need to be addressed and correct as needed. Depending on the amount of help the technician needs, this portion of re-training will take one to two days.

Once the trainer and the trainee feel that they are ready for assessment, the trainee will take their final online assessment, structured like the new technicians' assessment with customer service modules, as well as use cases and simulations. Only upon a passing grade on the assessment and no significant re-training needs are addressed will the technician return to the rotation.

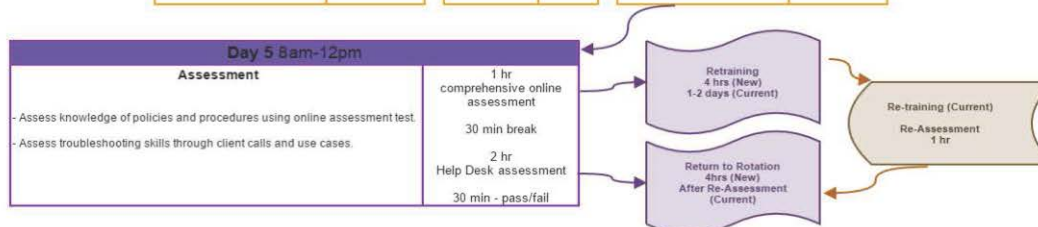
Learning Tasks Diagram

Day 1 8am-9am		Day 1 9am-11am		Day 1 12pm-1pm		Day 1 1pm-4pm	
HR Paperwork Completion 1 hr		Online Learning Component General Guidelines / Customer Service Basics - Recall the Help Desk policies and procedures. - State the basics of customer service. Ticketing Software Basics - Demonstrate successful navigation of ticketing system. - Classify and sort sample initial contact tickets in the ticketing system.		30 min First Online Component 30 min break 1 hr Second Online Component		Online Learning Component Troubleshooting Techniques - Describe basic troubleshooting steps. - Practice successful troubleshooting with use cases.	
				Lunch 1 hr		1 hr Basics of troubleshooting steps 30 min break 1 hr Use cases 30 min break before leaving to go over plan for next day	

Day 2 8am-11:30am		Day 2 11:30am-1pm		Day 2 1pm-4pm	
Campus Tour Use maps with trainer. Successfully navigate campus. Listen in and observe trainer fields calls and performs troubleshooting tasks. Recognize common issues and problems.		Half Day Hackensack Campus		Travel Time for 2nd Campus Lunch 1.5 hrs	
				Campus Tour Use maps with trainer. Successfully navigate campus. Listen in and observe trainer fields calls and performs troubleshooting tasks. Recognize common issues and problems.	
				Half Day Lyndhurst Campus	

Day 3 8am-4pm	
Campus Tour Use maps with trainer. Successfully navigate campus. Listen in and observe trainer fields calls and performs troubleshooting tasks. Recognize common issues and problems.	
All Day Paramus Campus	

Day 4 8am-12pm		Day 4 12pm-1pm		Day 4 1pm-4pm	
Hands On Training Office Time w/ Trainer - Answer client questions accurately via phone, in person and tickets - Create new tickets when new clients contact the Help Desk. - Navigate documentation for answers to questions. - Utilize knowledge base to answer client questions. - Assist clients with finding answers in knowledge base. - Analyze incidents to decide the best method to use from knowledge base. - Categorize non-initial support tickets for other departments within IT.		4 hrs		Lunch 1 hr	
				Hands On Training Help Desk Time w/ Trainer - Answer client questions accurately via phone, in person and tickets - Create new tickets when new clients contact the Help Desk. - Navigate documentation for answers to questions. - Utilize knowledge base to answer client questions. - Assist clients with finding answers in knowledge base. - Analyze incidents to decide the best method to use from knowledge base. - Categorize non-initial support tickets for other departments within IT.	
				4 hrs	



Technology Integration

Digital Chalk

Instead of using the current learning management system, DigitalChalk was found to be the best platform to deliver the online learning module and assessments. It integrates tests, assignments, and documentation seamlessly into the course skeleton. The Chalkboard element is like a built in Camtasia-like tool that also integrates “chapters”. Not only would this be good for the self-directed learning portion of the training, but for the enrichment/re-training of the current technicians. The learner can review the sections they need to review instead of going through the entire training if they need help in one specific area of training.

Additionally, it allows for the ticket management system to be integrated into the course with the Web Archive element and the Adobe Captivate element so they can practice without leaving the course. It requires an audio element, which can also be used to follow ADA guidelines and allow an extra layer of comprehension for the students. It also allows for relevant documentation to be stored as well in the course as well as tests and assessments. It provides cloud-based access and iPad and tablet access, which would follow the current technology requirement of the full time technicians to carry their iPad while on-site. Being able to access the documentation and training from anywhere will help reinforce the information while in the field dealing with incidents.

The tool would be the delivery system for the different modules of the new technician course and would let allow integration for both the customer service and policies training and the tool-based training later. It also allows searching for courses for different levels and by category, which allows for expansion down the line.

The cost of the tool is by licenses – the department would only need a small group, so 75 users would be completely sufficient for not only the Help Desk group but the other branches of IT as well and the amount paid monthly is about what is spent on our ticketing system. It offers a single-sign on option so it could even be integrated into our current username and password solution to make it more streamlined and integrate it into our current landing page for easy access for our technicians.

Digital Maps

Using the current map system, a map with information on each classroom and office will be developed. By clicking on the room, a list of the software and technology in the room will appear, including Media Technology’s diagrams of the media equipment in that room and any necessary specialty information like assigned printers to the room.

In making it web-based, it will be accessible both by the mobile devices and technician computers to be used as a tool for the Help Desk based technicians as well.

Training Headsets

The integration of training headsets is important for being able to listen to an entire phone transaction to either determine if the trainee is following protocol and procedure or for the trainee to listen to the trainer to hear good examples of phone support. The phones currently use at the Help Desk and in the offices have available compatible headset technologies.

Implementation Plan

Sample Participants

The initial participants in the implementation will be a select few technicians with training experience. These technicians are found to be the most sound in their incident management and knowledge of policies, but may still be spreading incorrect information. The reasoning for using the technicians currently used for training is

twofold: to identify which knowledge and environmental gaps are not being addressed and to make sure that they are fully trained and capable to train further.

The second group would be the longer tenured employees and a few more recent hires. They will be trained by the initial participants and will interact with the following modules: enrichment/re-training and new hire curriculum, respectively.

The third and final implementation would be a brand new hire. By the end of Summer 2015, the Help Desk will be hiring three more technicians. They would be trained by one of the technicians from the first implementation and they would provide an unbiased look at the curriculum, coming from outside the organization.

Implementation Process

Mockups of the courses and materials will be created throughout the design process. When the course has reached the alpha phase, the Help Desk manager and project group would examine the course for feedback and determine any features to be created in the actual course. The course will pass into beta testing with group one, the select trainer technicians. When the course has reached beta stage after project team use and feedback, the final course and documentation will be released to the groups involved. The manager and project manager will be familiar with the course materials and training as part of the project team. The projected start date would be the beginning of summer hours the first week of June, as the college is at the lowest activity period.

The instructional designer would train the initial two trainers for the first implementation test, which will follow the same timeline as presented above in the Learner Tasks. This would serve as a train-the-trainers event, with the course presented on a larger scale in presentation format, rather than the one-on-one implementation to follow with groups two and three. The exclusion of the manager and the project team from the initial training would assist with the motivation and environmental gaps, as well as counter the attitude of any technicians regarding leadership. The beginning and end assessments would help in showing the effectiveness. The feedback from group one will inform the released product for implementation with the second group on a wider scale. These technicians, upon successful completion of the course, would be the trainers for a larger rollout.

The second group would be taught in waves, with two trained per week, using the same timeline presented above. This will take the training into mid-July. This way, there is not a huge impact on overall staffing. While the trainees are doing the online learning and assessment, the trainers can be returned to rotation. Using the on-campus training room for the online learning modules for those part-time users without an assigned desk, each technician would be paired with one of the staff technicians who already did the training and the initial training team from the first step would provide guidance and solicit feedback. Special attention would be paid to those recent hires as they would be able to speak to being the new technician and speak to the need for retraining due to their less-than-stellar training previous.

The third implementation would be, in essence, the “final” implementation. A new hire would be given the new hire training by one of the trainers from the first group found to have successfully assessed out of training satisfactorily. As the newest hires are not scheduled until August 2015, the second phase of implementation – even if the technicians need re-assessment – will not affect new hire onboarding,

Instructional Materials Description

Included in the implementation will be the full-fledged Digital Chalk course. All applicable policy, procedure, and tool documentation – as well as the digital map - will have been written and included both within the course and in the Knowledge Base accessible to all technicians.

In the initial implementation, the instructional designer would proctor the initial training with both trainers in the same room for the online components, then in a group for the campus tours and Help Desk related training.

For the second implementation, each pair (trainer/trainee) will need a networked internet-based computer, a training headset, and access to the Digital Chalk courses via a web browser.

Also, the training headsets will need to be ordered, installed and configured. For the second group implementations, the trainer will use their iPad to keep the training documentation handy. As the training program progresses and the trainer knows the material handily, they will not need a second computer to help with training.

Evaluation Plan

Purpose

Evaluation is integral throughout the design process as well as after implementation. The purpose of the below evaluation plan is fourfold: evaluation of the alpha phase of the training plan by the project team, evaluation of the training plan by the trainer team when the plan is in beta, evaluation of the training plan by the current team of technicians, and finally the evaluation of the training plan by a brand new hire. In this way, the training plan can be evaluated continually through the three types of evaluation by all four groups and, together, the different groups' data can be compared at the same point in their training process. For example, the data from the trainers' evaluation and the first two technicians trained in the next implementation wave can be compared initially, then the subsequent pairs of technicians can be compared to that first group and the trainers. This evaluation plan will include both qualitative and quantitative data and different evaluation tools at different points of the evaluation process as outlined below.

Formative Evaluation

The first part of the evaluation process will be in introducing the materials to the project team at various parts of the design phase, including the alpha phase. The information gathered from the project team during the design process, including their feedback on the prototypes of the courses as well as their scores on the alpha assessment. To provide qualitative data during the formative evaluation, feedback would be solicited through a separate survey. The qualitative data and quantitative data would inform the alpha version of the project to evaluate if there needs to be any changes to the content or if the features of the course or training need tweaking before entering into the beta phase.

These questions, in a developmental design questionnaire will include questions like "Does the task analysis present all of the prerequisite skills and knowledge needed to perform the learning goal, and is the prerequisite nature of these skills and knowledge accurately represented?", "Do the assessment activities reflect reliable and valid measures of the instructional objectives?", and "Do the assessment activities reliably distinguish between competent and incompetent learners?"

The second set – and ultimately the most important data to determine the wide scale implementation - of data for the formative evaluation will come from the first pair of trainers. They are the first non-project team evaluators, which makes their feedback essential to the entire rollout. Their contribution will be unbiased due to them not being in the design process, providing the first set of small group evaluation via their assessment scores and comments on the surveys. Survey questions will include "Are examples, practice exercises, and feedback realistic and accurate?" and "Is the content accurate and up-to-date?"

The instructional designer will proctor the actual assessment used before the re-training/enrichment to get a baseline of scores as it would work in the skills re-assessment/re-training. This assessment would include multiple choice, higher level, and matching type-questions as well as case studies. Then, the trainers will take the training and assessment. With this information, the courses can be modified before the larger rollout. The two data points will start the formative evaluation and start the progress into the summative evaluation.

Summative Evaluation

The summative evaluation plan is focused on determining whether the participants have acquired the knowledge to meet the training plan objectives and their attitudes towards participating, as well as gathering information about the trainers' experience teaching the content. The summative evaluation would start with the first training of the chosen technicians after the "train the trainer" event. It would follow the above evaluation guidelines, with the pre-training and post-training assessments and surveys.

Surveys will include questions regarding how the trainees felt the training helped their incident management with a scale from 1 being the least effective and 5 being the most effective. The trainers would also be asked for feedback a second time regarding proctoring the training, which will include short response answers to questions like "Did you feel that all of the instructional materials and equipment that you needed to teach the training were available? What would have made it easier/more effective?" The final phase of the summative evaluation will commence with the new hires in August 2015. The same information – pre-assessment, training, work, and post-assessment – would be taken from the first official training implementation on a larger scale to close out the summative evaluation.

Confirmative Evaluation

The Help Desk manager, as part of her daily duties, already evaluates tickets in the ticketing system. Utilizing the information from the tickets after the technicians are back in rotation will add another layer of qualitative data to give another layer to the confirmative evaluation.

The data from the subsequent teams through the months of June and July will build upon each other. Additional data will be gathered with new technicians, as well as enrichment/re-training for the technicians who go through the training a second time.

The final set of data for the confirmative evaluation will be the ticket review and a short answer and survey given out to the technicians six months later, then a year later, asking questions like "Is there is any subject with which you still feel you need help/further instruction?"

Conclusion

In conclusion, the goal for the training plan above is to implement a hybrid online/on-site training for new and current technicians that includes all the policies and procedures in an easily digestible and testable multimedia format, as well as hands-on mentor based training. The use of the online multimedia course will standardize the training curricula and provide a standardized assessment procedure to evaluate new technicians and make sure that the information they will be providing will be accurate and thorough. The hands-on training will speak to those technicians who learn best by doing and give them the practical knowledge and practice they need before they are entered into rotation. This way, the new technicians will be confident and empowered in the first weeks of their job. This will improve the knowledge and environmental gaps.

The accessibility of the training course and the documentation after the training will help with retention and accountability. The re-training/enrichment format, with the initial assessment for knowledge gaps and issues with subjects like Help Desk courtesy, will help zero in on the issues that the current technicians have due to their piecemeal training and inconsistent content. The ability to test their knowledge of current policies and procedures and frequently asked questions will also show the technicians where they are lacking, which should help in encouraging the technicians to desire to build on those knowledge gaps, closing the motivation gap and providing a solution for the environmental gap. The final online assessment at the end of the re-training would be integral to not only assess if the knowledge gaps were closed, but also for evaluation for further improvement plans in the future if the technician does not improve after re-training and personal development, if needed.