Integrated Customer Services:
A Learning Case

Case Study 1 – A Proposed Solution
for
ED 333A

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I. Learning Problem

Customer services currently provided by the Company are divided among three functional areas, which handle supply ordering, customer account information, and service requests. Representatives from each area have integral understanding and skills in solving problems specific to their areas, but do not possess the knowledge and skills necessary to address problems in the other areas. When a call center representative is presented with a challenge outside of his abilities, the representative usually refers the customer to another department. The current referral process is often misdirected, slow and redundant, and rarely results in a “solve.”

The company has decided to integrate the three functional areas within customer service into one integrated department, which will involve a new position: the Integrated Customer Service (ICS) Representative. Due to the environment outlined above, call center representatives are not currently equipped to handle the new integrated environment, which will involve addressing customer calls across all three functional areas.

II. Design Objectives

In order for the learning problem posed to be addressed effectively, a design solution must accomplish the following:

- Establish equal understanding and skills among all learners
- Teach the purpose and use of tools and technologies of the new job
- Teach the function and mechanics of copiers
- Provide access to sufficient support (e.g., technology, people, manuals, etc.)

III. Design Principles

Our solution leverages the strengths from Cognitive, Behavioral and Situative approaches to learning and instruction. These are the approaches taken to effectively meet the learning needs under the current circumstances.

Establish equal understanding and skills amongst all representatives

Learners within ICS must understand what new steps they must follow as well as what roles they will play within the larger system. Support for procedural as well as conceptual understanding is a given of our proposed solution.

We feel the most direct way to distribute knowledge amongst the learners in the ICS pilot is to stimulate interaction between those learners. By creating environments in which learners are able to, through discourse, question, challenge, teach and learn from one another, we aim to cultivate a unified understanding of all possible challenges.

The sharing of different types of knowledge between individuals entails communicating individual experience, understanding and skill. A curriculum that effectively disseminates these
understandings between novices and experts of particular domains should employ the tools and language of those domains for instruction.

We find it particularly necessary to consider the unique challenges that the environments and logistics of working at the Company pose to learning and therefore believe that instruction should be framed within real-life environments and should pose realistic problems to solve.

In assessing what should be and is ultimately understood by the group, the call center employees (experts of their particular domain) should be involved in establishing the learning goals. They should also be administrators of evaluation of the group’s development.

**Teach the purpose and use of tools and technologies of the new job**

We believe that for learners to understand the various systems and tools that they must use as a part of their new responsibility, the tools themselves must be “transparent”, or require little to no learning in their use. Their design should therefore be based upon the systems, tools and rules that learners currently use and understand.

Again, we feel that real-life scenarios are important vehicles for understanding the purpose and use of new technologies. The use of realistic problems will be used in instruction of the tool’s use. Understanding of these tools can be achieved through the use of expert instruction. Again, the learners are experts in their particular domain. Leveraging their knowledge to formulate instruction in a particular domain is essential.

**Teach the function and mechanics of copiers**

Expert knowledge will be considered in delivering instruction on the Company’s machines. This expert knowledge shared through apprentice-mentor exercises will be used to build understandings of how to solve problems. These exercises will employ realistic examples to serve as effective vehicles of clarifying the issues involved in that problem solving.

The use of mental models will be effective in communicating the systemic characteristics of each machine, the unifying properties of all machines, and the processes involved in fixing machines. This system knowledge will be effective in solving problems novel to learners.

Because a role of learners will be to instruct customers through the processes required to fix machines, practical learning of the components of each machine will reinforce understanding of how machines are constructed. This learning will entail knowledge of the function of each component, its functional relationship to other parts, its location and physical connections to other parts, and its particular structure/properties, etc.

**Provide access to sufficient support**

Our solution will enhance the availability resources in the work environment. Learners currently use tools to negotiate, problem-solve, and manage their work. Our design will organize these mediating tools such that they are present and available in the learning environment, and during the learning process. Resources also take the form of communities. We will create environments of community inquiry and discourse, collaboration and team support. This will allow individuals to leverage and access the distributed knowledge and skills of the companies many employees.
IV. Design Solution

For the design solution, we had a two-part focus, which included the following areas:

1. Integrated Customer Service (ICS)
2. Corporate Training Organization

1. Integrated Customer Service (ICS)

Workspace Redesign

In order to enact effective training for the Integrated Customer Service Representatives, we must first redesign the workspaces for the employees. This will be the learning environment for the training course, and eventually the entire ICS workforce.

Workspace Pods
The 48 trainees will be welcomed to the new training/work facility with eight workspace cluster pods. The pods consist of six employees sitting at ergonomically correct desks and chairs in a circle. (See Appendix for an aerial view of the training/work facility)

Copiers
- Four groups of the five most common models of copiers will be located in the room, with instruction manuals for each. Note: although the company sells hundreds of copiers, we decided upon five “heads of family” copiers. This way, the number of different copiers will not overwhelm trainees, and they can become familiar with the general workings of each “family.”
- Laminate cards, with pictures and important information about each copier model, will also be provided to all trainees to be used as a quick reference guide. These guides will help them understand the differences between models that are not represented on the floor.

Computers
- Each ICS representative has a computer with the new Integrated Database (IDB).
- The IDB has a common interface (See Appendix), which houses the framework for the original four major computer applications for customer service. This means ICS representatives use one interface to work with:
  - Customer Account Information for billing and customer account inquiries
  - CasePoint for diagnosing copier problems
  - Product Catalogue for sales of new equipment
  - Quick Messenger for instant, online discourse with coworkers

Training Course Schedule

We developed a 15-week course of training for the new ICS representatives. The first 9 weeks will be all-day product orientation and computer skills training. The trainees will
begin mock scenarios at week 10. By week 12, the trainees will be scaffolded and supported in taking real-life customer calls. By the end of 15 weeks the scaffolding will have faded and the new ICS representatives will be considered experts, ready to lead the company’s new Integrated Customer Service Department. The training course will proceed as follows:

**Week 1: Overview**

The first two days of the training will be a two-day seminar with all 48 trainees together in a large conference room. This is a time for the trainees to get to know one another and to get a feel for their new roles in the company. The Company and members of the CTO will conduct a “look at what’s ahead,” a description of the exciting new roles the employees are about to take on as ICS representatives. This will include video demonstrations of the new job responsibilities, showcasing examples of best practices and indicating to the trainees how positively transformed their interactions with customers will be at the end of the 15 weeks of training.

After two overview days, the new ICS representatives will begin training in understanding the new job. It is important to give a conceptual framework of each role to the trainees. They must understand the bigger picture before they can begin job training. The activities take place in groups of six: two from each former department (Customer Accounts, Customer Service and Supply Service) will describe their former specialty role in detail, highlighting best and worst practices. The groups will engage in storytelling in the course of knowledge building. These activities will complete the first week of training.

**Week 2: Training on the Use of Copiers**

In order for the new ICS representatives to fully understand their new job functions, we will provide familiarization of the workings of the 5 “family” copiers. The trainees must be able to create mental models of the copiers, and know how they function in order to diagnose problems more thoughtfully.

- Field Technicians and engineers will conduct training, with the trainees in their core groups of 6.
- Demonstrations are conducted of the most common and most fixable problems; these demonstrations are supplemented with real-life analogies to help create mental models. This gives the trainees a chance to get a real hands-on look at what it’s like to have a paper jam and understand how easy or difficult it is to fix the problem.
- The Field Technician takes apart a copier and shows all the parts, explaining the purpose of each part, and then rebuilds the copier. This exercise helps create cognitive mental models of the structure of a copier. This process also gives trainees and understanding of the procedural workings of the machine.
- Each trainee receives a laminated quick sheet on common copier problems, with pictures of the fix being performed and a brief explanation.

**Weeks 3-9: Training on the Use of the Integrated Database (IDB)**

The Integrated Database (IDB), which encompasses four formerly separate applications, allows ICS representatives to interact with one interface. The IDB will be overviewed as a flow chart so the trainees can see the relationships between the four entities within its
system. Training in the use of the IDB will employ both situative and cognitive learning theories, through peer-to-peer training and instruction that utilizes mental models in order to foster learning.

The IDB pulls from the following applications: CasePoint, Customer Account Information, Product Catalogue, and Quick Messenger: (See Appendix for IDB Interface)

CasePoint
ICS representatives need to have a conceptual understanding of CasePoint in order to be able to use it properly, and to understand how it can best work for them. Since the former customer representatives, the sole CasePoint users, did not conceptually understand the program, all ICS representatives will be trained in CasePoint logic. This training will be conducted with the original designers of CasePoint, along with copier engineers and technicians. A detailed overview of CasePoint and how it “thinks” will be given, as well as particular strategies for using the software. By the end of CasePoint training, the trainees will have an overall comprehension of how the program operates, and where questions and answers within the program will lead.

Customer Information
ICS representatives will be able to work with the Customer Information database as part of the IDB. Trainees will learn how to access and modify Customer Information. They will be trained in the use of this portion of the IDB by the expert members of their group who formerly worked as Customer Accounts representatives.

Product Catalogue
ICS representatives now have the product catalogue at their fingertips in IDB. Training on the use of the product catalogue database will be conducted in small groups of three, led by the former Supply representatives.

Quick Messenger
This feature of the IDB allows an ICS representative to send an instant message to one of his colleagues. Consulting colleagues builds teamwork, fosters the participatory learning environment and reduces telephone solve times.

Weeks 10-15: Integration

Once trainees have an understanding of the aforementioned concepts, we will begin an intensive hands-on call services training module. This will consist of small groups of three work together taking calls in various Mock Scenarios. Gradually the Mock Scenarios will be phased out, and ICS representatives will take real customer calls. The Mock Scenarios will entail:

- Three trainees, one from each of the former functional areas, will be grouped together listen to same call and will all see the same computer screen. Each person with the given expertise will handle the portion of the call that pertains to their expertise, and the others watch and listen to the way they handle the calls. Mock Scenarios will begin with single problems, and over the course of the first few days they become more complex. For example, the initial calls answered pertain to solely to supply sales. The more complex calls contain questions about supplies as well as copier problems and billing.
Mock Scenarios will contain a dual view of the problem. For example, a call from a customer with a “faded printing” problem will also involve observation of a technician fixing a copier with this problem while the ICS Representative attempts to give directions. This will allow ICS representatives to visualize the customer’s experience as well as the actions of the technician, and their understanding of the solution to the copier problem deepens.

Mock Scenarios take place over the course of two weeks. Each day there will be less observation until ICS Representatives are working unscaffolded.

Weeks 13-15: Trainee Assessment

After 2 weeks of Mock Scenarios and one week of real calls, the trainees will be assessed in their proficiency in the new ICS role. Each ICS representative will be called upon to evaluate his peers. This leverages the current knowledge of each representative. For example, a former Supply representative was an expert at solving a particular sales problem in his former job. He can now assess whether the immediate group members are mastering the skills necessary to be considered expert as well.

2. Corporate Training Organization (CTO)

In order to design, develop and deliver a learning plan that is functionally integrated, the CTO needs to be reorganized to address problematic areas, which include:

1. **Curriculum writer does not have real-world knowledge of ICS responsibilities.**
2. **Training requirements are not based on a cyclical data gathering process.**
3. **“Cycle time” from requirements gathering to delivery of instruction is too long.**
4. **Employees are not empowered through training.**

Addressing these problems involves, first, understanding why the change is needed, and second, understanding what approach to a solution the CTO should take.

1. **Curriculum writer does not have real-world knowledge of ICS responsibilities.**

   **The problem:** As seen in the formerly segregated call center responsibilities, employees often learn how to accomplish their goals through unanticipated and often undesirable methods. These methods are not scalable, since they cannot be officially incorporated into a training curriculum. For example, an employee who is married to a service technician may have an above average solve rate. While it is not feasible to suggest that all call center employees marry technicians in order to achieve the same goal, there is an underlying method of knowledge transfer (from spouse to spouse) than needs to be understood, and incorporated into the training curriculum. It is imperative that the curriculum writer understand how the new ICS representative will actually work, in order to successfully incorporate this real-life understanding of his work process.

   **The curriculum writer should understand and apply the real-world applications of an ICS representative’s new responsibilities.**
The solution: Rather than a top-down (management driven) approach, the curriculum writer should base the curriculum on a bottom-up (employee driven) approach in order to incorporate this real-world knowledge. This needs to incorporate participation of current call center representatives, which includes the employees developing questions about and evaluating how they will work in the future state. Specifically, the CTO curriculum writer will work with three experienced call center employees, one from each of the former functional areas (supply ordering, customer account information, and requests for service) in developing the training curriculum.

The curriculum material for the training program will consist of:

- **Orientation schedule** – process through which ICS representatives will perform a series of training exercises with scaffolding and fading
- **“Quick hits” cards** – laminated, for common copy machine servicing
- **IDB guides** – single-ring bound, one page for each IDB function
- **Best practices video** – comprised of clips of calls integrating all three former call center areas, with examples of successful solves
- **Survey** – for pre-training assessment of what representatives constitute as success

2. **Training requirements are not based on a cyclical data gathering process.**

The problem: CTO has historically developed training requirements through a traditional approach. First, CTO analyzes employee tasks (i.e., responsibilities), and then it determines the training requirements based on this set of tasks. It is a one directional process: gather information and hand-off determinations. Information does not feed back into the process.

Training requirements should be developed through a cyclical process.

The solution: In order to gather the information necessary to develop training requirements, CTO will work with and observe current employees in understanding their current practices and how their responsibilities will change in the integrated environment. For the observations, CTO will observe call center employees as they attempt to handle calls outside of their functional area. Primarily, this information will inform the development of transcripts for mock calls during week one of training. CTO will continue to observe experienced call center employees handling calls in their specific area of functionality, as well as how they adapt to handle calls across all areas of responsibility. Through this cyclical process, information will feed back into and inform training requirements for the future rollouts of ICS.

3. **“Cycle time” from requirements gathering to delivery of instruction is too long.**

The problem: The CTO’s goal is to translate the ICS initiative for customer service improvement into action and lasting results, and in the most cost-effective and timely manner possible. Currently, from idea to implementation, approximately 40 hours of preparation time are needed to deliver one hour of curriculum. This process is time-consuming, and not supportive of ICS’s 150-week training program timeline.

Curriculum should be developed with a team-based approach.
**The solution:** The intent is to achieve “learning by doing” results, which develop a deeper conceptual understanding and superior ability to solve problems in situations outside of the specific training material. Therefore much less of the curriculum will be classroom-based, and instead will be based on observing the job at an expert level, as well as on performing the job with “scaffolding” and “fading.”

Specifically, the training curriculum will support a team-based learning approach, and the classroom activities will be kept as concise as possible. CTO will develop the transcript for the mock calls, which will be informed by recordings of successful calls, and based on the challenges that expert representatives have been observed solving. Regarding the new Integrated Database, CTO will provide the new ICS representatives with a flow chart demonstrating the relationships among the four entities (CasePoint, the customer account database, the product catalogue, and quick messenger).

4. **Employees are not empowered through training.**

**The problem:** Currently, the training is didactic in nature, with a one-way transfer of information. The environment does not engage the individual opinions, views or shared knowledge of the employees, and therefore does not support the individuals as capable and confident learners. The CTO should develop learning activities that support personal differences. Training that incorporates clear goals and feedback as well, will help employees understand what they are expected to learn, as well as how well they are doing along that path. These types of support positively affect employee morale, essentially empowering them in their new roles.

**Training should aid in motivating and empowering employees.**

**The solution:** Specifically, the CTO will develop a curriculum that takes into account the specific backgrounds (i.e., former functional responsibilities) of the ICS representatives. Also, in order to help the ICS representatives guide their own progress of their training, assessment and feedback guideposts will be incorporated.

V. **Assessment of the ICS Design**

Assessment of ICS as an effective solution to the company’s problem will take place at the end of the 15 week program. The success of ICS will be compared to that of the former call center situation. Specific factors will be reviewed to determine that success. Those factors are:

- **Solve Rates:** Determine percentage of successful calls compared to former model
- **Time spent on each customer call:** Determine call length data compared to former model
- **Number of field services calls:** Determine number of service calls required to solve copier problems compared to former model
- **Customer satisfaction:** Review customer feedback, determine customer satisfaction compared to former model
VI. Appendix

Aerial view of the ICS Training/Work Facility

Screen shot of Integrated Database interface