Final Case Problem Design Proposal:

Integrated Customer Services: A Learning Case

by

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ED 333a
Part One: Integrated Customer Services

Learning Problem- Integrated Customer Services

Divisions of the Integrated Customer Services have a learning challenge in that the workers need to expand their identity to a robust customer service representative of many functions and competencies, and that their organizational workspace is not an efficient environment that provides access and transmission of information for a well-trained representative to be a successful customer service representative.

This dual learning challenge has a layered hierarchy of learning perspectives, and these will be addressed in the design solutions and focus of our goals. The community of representatives does not currently practice sharing of knowledge, and because of their isolation from management and technicians, they do not have conceptual understandings of the business or its products. The representatives individually may have a local specialization in one of the four existing organizations: equipment service, supplies marketing, account administration, and telebusiness. However, the specialized knowledge is not made corporate within the group. Information is not organized in effective manners for easy access to the telephone operators.

Goals

Our design goals as designers are to create smartly designed workspaces so that properly trained representatives can efficiently help customers, and provide a training program that will help them develop new skills, knowledge about the relationships of information in the organization, and expand their identity to a capable problem solver. Upon completion of the training and redesign of the workspace to facilitate learning by doing and learning by observation, workers should:

1. Increase participation in knowledge building practices of the team and organization through changed identity of the individual from a specialist to a comprehensive customer service representative,
2. Understand conceptual models of machines and business though participation in experiential problem-based learning exercises
3. Be able to demonstrate common problems and talk customers through actions required for successful resolution of the problem.

Design Rationale

1. Efficiently designed workspace will provide representatives with access to information, each other, and physical representations of equipment so they may continuously engage in participatory learning, develop mental models, and practice behavioral tasks.
   a. Use the hot, cold, lukewarm, etc. classification system to determine which documents go where in design.
2. Training should be transitional from management down through the hierarchy to the customer service representations.
Design Principles

1. *Learning is constant and continuous.*
   Since the worker is in an environment where the information is dynamic due to new iterations of machines or new methods for solving problems, the learning does not officially end.

   If the identity of the individual worker becomes more robust because of competency acquisition, then the worker will more aggressively participate in teams to help solve problems.

3. *Robust knowledge and understanding are constructed socially through talk, activity and interaction around meaningful problems, tasks, and tools.* (Vygotsky, 1978. *Mind in Science.*)
   Participation in a community of learners will help facilitate knowledge. This supports the redesign of workspaces and creation of teams.

4. *Interactions with material systems and concepts in the domain that understanding is about and social interactions in which learners discuss their understanding of those systems and concepts.* (Greeno et. Al, p 27)
   Models will help workers build schema that they may integrate into mental models of equipment, software for sales and accounts provides an understanding of what the company owns and produces, and interaction with coaches and other learners in the different fields will help harden the learner's ideas.

5. *Build on pre-existing knowledge.*
   There are experts already in the population of workers, so build on their pre-existing knowledge to help teach others.

6. *Find out how concepts are structured and create instructional representations to capture all aspects of the structure.* (Case)

7. *Motivation is a sequence of events that include attention, relevance, confidence, and satisfaction.* (Keller’s ARCS model of motivational design)
   Training the workers and showing them how things relate to their professional goals will motivate their learning. Building confidence from displayed and documented team and individual success will also create satisfaction and influence identity.


Design Solution

Physical environment
From video and documentation, the representatives currently work in cubicle clusters and have a combination of paper documents and online documents. We propose a redesign of workspace clusters and work area. This will support learning by observation of coworkers with specialties at workstations. The floor layout redesign to include a copier lab supports learning by doing and continuous learning opportunities. Diagrams are included, and properties of the newly designed work area include:
- Combine individuals of the four siloed specialty areas into groups at workstations that facilitate conversation, sharing, problem-solving.
- Dual Screens at workstations for individual workers. Computer screen now displays a portal aggregating information for the four organizations from software created to extract related information from individual silos. Two screens allow the worker to view a greater range of info simultaneously.
- Central copier lab with appending coach hubs so that representatives can use machines, practice techniques, and get questions or individual trainings from technicians now serving as instructors.
- Scrolling marquis at workstations that displays lukewarm document information, recent problems, common problems, and successes. This constant display of information will provide workers with opportunities to gain knowledge and exchange knowledge without distracting them from work, and pressure of class. These short, repetitive information shots will become embedded in their learning without required effort.
- Paper Document Presentation redesign:
  - Hot: Place on rotating central desk kiosk located in the middle of workstation. Spin feature makes it accessible to all at workstation, and spread surface area of information.
  - Cool: Place on bottom level of built-in bookshelves of workstations
  - Mixed: Place on top level of built-in bookshelves of workstations
  - Lukewarm: Place in online documents as screen feature, on scrolling marquis and television, and on top level of bookshelves.

Here all information is at the fingertips of the worker, and there is support for practice and management on the same floor. Employees can practice through laboratories, scenarios, problem-based learning on machines so they can develop mental models, and they do not have the pressure of consequences if they break the machine because technicians are in close proximity. This will help them develop their identity as an equipment savvy worker who is versed beyond diagrams, and it does not take place within a restricted timeframe.

Training Session

The training session for the Integrated Customer Service Pilot should be done in teams. It will involve scaffolding and fading, modeling, experiential exercises, and team teaching. The protocol and topics to be covered follow:

- Twelve member teams: combination of novice, intermediate, and veteran in each of the four areas
- General business structure
- Equipment Services
- Supplies Marketing
- Account Marketing
- Telebusiness
- Learning New Software System
- Demonstrations on and copier lab using project-based learning with tech coaches
- Peer teaching across expertise areas

We do not want to have a formal training program that has a set finish because that would contradict with the continuous learning principle. It also makes the central copier lab less of a constant site and source for learning. The areas that will be covered will be over the span of fifteen weeks, but our graph
below shows our intention to focus on certain subjects and increase or decrease the intensity of training over time. There should always be some learning going on within communities and between coaches and representatives, and this is why the graph shows a constant fluctuating rate. The graph physically ends after fifteen weeks, but the desired timeframe does not end. Some of the lessons within each section will be taught by coaches and management, but others will be taught by representatives who have been evaluated as superior in their field. In this portion of the training, the workers will learn by observation and then learn by doing.

Curricular Topics:

<table>
<thead>
<tr>
<th>General Business</th>
<th>New Teams</th>
<th>Software</th>
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<tbody>
<tr>
<td>• Incentive plan</td>
<td>• Why is the team composed this way?</td>
<td>• How does this work?</td>
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<tr>
<td>• Business operation</td>
<td>• Who leads teams?</td>
<td>• Understanding how to use as a portal</td>
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<td>• Employee Roles</td>
<td>• Communication</td>
<td>• Information manager</td>
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<td>• Restructuring of CTO</td>
<td>• Participation</td>
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<td>• How to use coaches</td>
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<td>• Explanation of workstations</td>
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<table>
<thead>
<tr>
<th>Supply Marketing</th>
<th>Accounts</th>
<th>Equipment Services</th>
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<tbody>
<tr>
<td>• Sales</td>
<td>• How to read account management screen</td>
<td>• Reading tech manuals</td>
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<tr>
<td>• Creating opportunities for selling</td>
<td>• Codes</td>
<td>• Understanding terminology</td>
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<td></td>
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<td>• Translating to or from customers</td>
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<tr>
<th>Peer Teaching</th>
<th>Demonstrations</th>
<th>Telebusiness</th>
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<tr>
<td>• How to peer teach</td>
<td>• Use simulation or modeling software to become familiar with machine parts</td>
<td>• Telebusiness</td>
</tr>
<tr>
<td>• Practice peer teaching with examples</td>
<td>• Use simulations to solve problems</td>
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Assessment

There should be various combined methods of assessment to demonstrate evidence of success. One method will be to video representative interaction with customers, and compare post-training and workplace redesign video. We will also track telephone solutions over the training period and after the training period, and compare results. We can create a basic competency checklist of each division, and then test representatives on the comprehensive list before redesign and training on all four areas to evaluate their integrated knowledge, and then afterward to see if knowledge has spread beyond their original specialty area.

We would like to include some self-assessment and co-assessment so that workers can participate since community participation is a large portion of the design. We will record training sessions and watch changes in participation on the team and in classes is knowledge is built. This video can be collected and shown to company executives for review, and to teams when the training is to be scaled to other places. We also will evaluate group improvement by sales and call solves.

Incentives

The incentive structure is primarily based on problems solved, items sold, and information shared. Workers are rewarded with new responsibilities, promotions, perks, and vacation time based on individual and team solves, sales, and measured and documented information shared. If the team holds equipment update sessions, for example, that will be rewarded with the opportunity to develop a program for such and a bonus.
Part One: Corporate Training Organization (CTO)

Learning Problem

The Corporate Training Organization is facing a number of learning and organizational challenges. The Organization’s current structure and functions are not aligned to the needs of the new Integrated Customer Services initiative, which will require workers to extend their role in the workplace beyond simple task performance to active participation in a multidisciplinary knowledge workforce. In addition, the new ICS initiative will involve four separate functional organizations joining into one new group. Within this process of consolidation there is the risk that valuable organizational knowledge will be lost or under-utilized, and workers will be become immobilized by the structural, physical and emotional aspects of this significant change.

The work process utilized by CTO to date will not effectively address these issues. Historically, this process has been for the CTO to respond to managers requests to identify training needs based on a task analysis model. This piece meal process breaks down the performance of workers in a behaviorist manner to the units of skill and behavior required to perform a particular job. The determined requirements for a task-based training are then passed through an addition three part process of curriculum design, curriculum development and classroom delivery. It generally takes forty hours of CTO work to create one hour of classroom instruction. The magnitude of new skills the ICS Pilot Group needs to gain proficiency with renders the CTO’s current approach to instructional design unscalable. Additionally, it has been estimated that it would take ICS workers close to a year to gain the information necessary to perform their new jobs, if this information is structured within the conventional CTO classroom lesson format.

The current CTO is also not structured to interactively gather, organize and redistribute the multiple forms of organizational knowledge that the four wholly separate organizations will bring to the newly consolidated ICS group. This new orientation towards knowledge building and exchange requires a change in the Organization’s structure and service offerings.
Corporate Training Organization Goals

To ensure the success of the ICS initiative, the CTO must focus on developing ongoing achievement in four areas. These areas include:

Scaling the training organization to first 50 and then 4000 people by acknowledging and supporting peer-to-peer knowledge exchange between workers

- Facilitate knowledge exchange among workers
- Cultivate and support informal Communities of Practice to create, share, and apply knowledge within and across the boundaries of teams
- Gain a clear understanding of the skills and abilities that the workers from the different groups are bringing to the new integration—extend this understanding beyond a task analysis based assessment to a broader comprehension of the worker's identity as a call center representative, a team member, a teacher, a learner, a mentor/mentee

Understanding and supporting ongoing work practices

- Become part of the ICS group, cannot be in an office far away anymore
- Understand the needs of the work on a daily basis as well as on a quarterly and annual basis
- Support core functions performed by the workers
  - communication—development of shared intersubjectivity with customers
  - problem solving
- Keep resources used by workers updated and relevant through active interaction and engagement with workers
- Include practicing and experienced analysts and technicians in the training group.

Collecting and distributing work related knowledge

- Capture and communicate information between teams
- Communicate new information related to all areas
- Determine through collaboration with experienced workers the types and forms of information that are effective for their work
- Keep resources used by workers updated and relevant through active interaction and engagement with workers

Supporting workers through the transition to new roles, practices and environments

- Support functional work teams
- Create structures and expectations of workers that include knowledge generation and sharing
- Advocate for workers with regards to the design of any integrated technology solutions
- Initially create explicit scaffolds for new work tasks, simultaneously providing support for the sharing of competencies with others
Design Rationale

The design of the new Corporate Training Organization (soon to receive a new name!) is premised on the points identified in the Design Rational for the ICS solution. These perspectives have been adopted by the Organization initially as the most expedient solution to the enormous time and resource challenge the ICS initiative presents. Pragmatically, there simply is not time available to continue to do things the old way. However, moving forward it will be especially important for the CTO to keep in mind the following principles:

**Build on pre-existing knowledge.**
Integrated Customer Services workers are not unskilled. Each worker in the group comes from a previously established area of the company and brings with them to the ICS group valuable skills and experiences. (Hull)

**Motivation is a sequence of events that include attention, relevance, confidence, and satisfaction.** *(Keller’s ARCS model of motivational design)*
ICS workers already engage in knowledge creation, management, and exchange. However, up until now these practices have been unrecognized and unsupported in the working environment (Whalen & Vinkhuyzen). There is an opportunity to motivate workers to use these skills to support the ICS initiative.

**Robust knowledge and understanding are constructed socially through talk, activity and interaction around meaningful problems, tasks, and tools.** *(Vygotsky, 1978. Mind in Science.)*
Learning takes place in the workplace and is structured in a variety of ways, some of which might conventionally be considered unstructured. Be certain that it fulfills a specific function when planning to utilize a classroom learning environment.

Design Solution

Reorganization of the CTO will take place prior to the role out of the ICS Pilot. The previously silo-ed organization will experience significant changes with regards to the roles and responsibilities of individual workers. In some cases, it is possible that CTO workers may not be a good fit for the new organizational structure, in which case it is hoped that other work can be found for them. It is also expected that people with excellent domain knowledge and communication/coaching skills in one or more of the four areas of the converging organizations will be added to the CTO.

The new CTO will be staffed by Domain Coaches, Information Managers, and Reporters. All three groups will report the CTO leadership as well as being involved in on-going cross-functional projects and initiatives. The CTO will be working in the same space as the ICS workers and is generally available to support ICS tasks. However, the CTO is not part of the ICS management structure, but operates as a learning service to the ICS.

**DOMAIN COACH(ES)**
Coaches are domain experts in one of the areas that the new ICS workers will be responsible for representing in their telephone work. The coaches are responsible for supporting worker teams in gaining the knowledge and understanding needed to successfully perform their jobs. The knowledge and skill areas that coaches will represent include:

- Telephone communication and general analysis skills
- Use of the consolidated customer database
- Use resources to respond to equipment service requests
• How to do supplies marketing over the phone
• Doing account administration over the phone
• Selling over the phone

The coach’s job is to support workers and provide on-the-job coaching in support of the identified knowledge and skill areas. The coach is not a manager. He or she is present in the work environment to help teams develop and share skills. A team leader can also schedule time with a coach to do a short workshop on a key area the team would like more focus on.

INFORMATION MANAGER: LIBRARIAN--ARCHIVIST
The Information Managers are responsible for incorporating new information and best practices into existing intranet and system resources. They are also responsible for developing and implementing initiatives that supporting ICS teams in doing this work themselves. As identified by Merchand et al., the main tasks Information Managers will focus on include:

• developing explicit and focused views of the critical information necessary to run the business
• helping workers understand the business, otherwise they cannot sense the right information to change the business
• carry out sensing face to face with people who have primary knowledge of the business context
• profiling, classifying, indexing and linking information are essential for its effective use
• speaking the same language to use the same information
• training people to collect and organize information, and rewarding them for it, it vital to the performance of both tasks
• developing richer definitions of information requirements for better analysis and decisions
• scenario-based training to facilitate information processing

REPORTER
The reporter is responsible for keeping track of the major events that happen within the workplace and to construct informative and accessible narratives around these events so that workers can use these stories for team reflection activities. (Learning History, Harvard Business Review on Knowledge Management). In addition, the reporter tracks the measurable successes of teams in respect to their performance in telephone support as well as their performance as mentors and knowledge creator/communicators.

Assessment
The success of the CTO is directly tied to the success of the ICS initiative. The assessment of Domain Coaches will be tied to measurable business results such as the number of service calls solved over the phone and the number of units of product sold. These Domain Coaches are thus encouraged to stay focused on the needs of the workers so that they can succeed in these areas. Domain Coaches focusing on communication skills and system use skills, as well as the Information Managers and the Reporters will have their assessments tied to the success of the ICS workers in general and the success of ICS initiative as a whole. Criteria mentioned previously in the Organization Goals are also benchmarks for ongoing performance.

Top Down View of Group Workstation with Central Rotating Kiosk
Scrolling Marquee

Front view of workspace from a representative perspective.
Basic floor plan (not drawn to scale) showing central copier lab, coach hubs, and team workstations.
The new integrated information view on the ICS' computer screen. Does not reflect interface or visual design.

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<th>CUSTOMER PROFILE</th>
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<td>Contact History:</td>
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<td>Log of contact, service calls and case outcomes</td>
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<td>Includes multichannel integration of phone and internet contacts, also integration of information from four previously established customer databases</td>
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<td>LOOK UP OLD ORDERS</td>
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