

## Telecommunicator Training Using Problem-Based Learning

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The Washington State Criminal Justice Training Center (WSCJTC) located near Seattle not only provides training for law enforcement and corrections personnel throughout the state of Washington, but it also offers training to public safety telecommunicators.

In December 1998, the State of Washington completed a statewide installation of an Enhanced 9-1-1 telephone system. This system enabled all citizens in the state to dial 9-1-1 and gave them access to enhanced features such as Automated Number Identification (ANI) and Automated Location Identification (ALI). Because of this new system, the State E9-1-1 Program Office and Advisory Committee considered what type of training needed to be provided. In conjunction with the Washington State Chapter of Association of Public Safety Communications Officials (APCO), the State E9-1-1 Office agreed that a critical component of the Enhanced 9-1-1 Telephone System that was missing was the training of the individuals using the equipment. Thus, 9-1-1 call receivers, law enforcement, and fire dispatchers were afforded the opportunity to receive standardized training. Two forty-hour courses were developed, Telecommunicator I-Basic Call Receiver and Telecommunicator II-Basic Law Enforcement and Fire Dispatcher.

In 1999, the WSCJTC made a decision to move from traditional lecture-based classroom instruction, to a problem-based learning (PBL) curricula design and instructional approach. Problem-based learning has been used for a number of years by medical schools, but more recently by agencies such as the Royal Canadian Mounted Police at their training facility in Regina, Saskatchewan. Because the Telecommunicator Program was small, offering 8-10 forty-hour courses per year, the decision was made to use this training program as a pilot for the transition to problem-based learning.

Problem-based learning acknowledges that each adult learner brings with him or her to the classroom, a series of skills, abilities and life experiences that may be applied in his/her role as a public safety telecommunicator. It sets in place at the beginning of the class a series of rules that include:

- You are responsible for your own learning
- If you do not understand something, ask
- In the course of each day, you will act as a facilitator, recorder/presenter and/or timekeeper within your work group

The first task was to update and revise the training manuals that once were used as a read-along-with-the-instructor book during the lecture. The manuals now serve as a resource guide for use during the entire course. The manual, broken into units dealing with different topics, contains all learning objectives and information the student will be expected to understand by the end of the course.

Next came the development of new course content. Instructors who previously lectured throughout the week would now make a transition from instructor/lecturer to facilitator. As such, the core material had to be presented in a very different format. Facilitators now work from course outlines called "scripts" which are crafted to present the material in a series of problems or scenarios through which students work in groups. The scripts queue the instructor on how long to allow the groups to complete brainstorming activities, debrief the groups, reiterate and reinforce appropriate student responses as learning points are brought up and, when necessary, to encourage the students to bring out any undisclosed important points. Instructors also receive queues on when to use other media such as CD's, PowerPoint, videos, exercises, etc.

Additionally, a series of problems was incorporated into the course material. These problems, which are encountered by students, make up the curriculum. Each problem is prefaced with a series of questions that reappear at the beginning of every scenario. These questions are redundant and used in order to help the student to internalize core values and concepts. These questions include "Who are the customers in this problem", "What is the [legal] duty owed", "What steps are taken to answer or handle this call", "How is the information obtained/relayed", "What steps are taken to terminate, close and document this call".

The students are given a series of problems or questions to solve or answer. They work in groups using a modified nominal group technique. At the end of the problem or exercise, the groups are debriefed, accounting for all required learning points. As students work through increasingly complex problems, the "core" questions become second nature. At the end of each day, students are given recommendations about which units to read in the manual for the next day. They are also given an evaluation to complete. The evaluation asks them whether the information covered that day is pertinent to their job duties and asks for suggestions about improving the module. In addition, students are also given a group of research questions to prepare for the next day. These questions allow students to bring out parts of the curricula that may not be covered in activities throughout the week. Facilitators have flexibility with the time involved in the reading and research assignments. Students may be let out of the classroom early enough for them to complete the assignments within an eight-hour class day. It allows facilitators to use their classroom time more effectively and flexibly while allowing students to "teach" their fellow students when the research questions are presented to the class the next morning.

After the scripts have been developed, using each eight-hour class day as a single module, the next step in the process was to change the way instructors delivered the information. The Telecommunicator Program Office had a cadre of professional telecommunicator instructors who were very familiar with the curricula. These instructors were brought back into the classroom for a three-day training session to assist them in transitioning from lecturer to problem-based learning facilitator. This transition is not as easy as it sounds. A common problem that we experienced was that good, entertaining and dynamic instructors fall back into the "lecture mode" with which they are comfortable. It became apparent that a critical component to the satisfactory delivery of PBL curricula was to assign a mentor to the class facilitators, at least through their initial attempts at facilitation. The mentor's role

is to assist the facilitator when he/she begins to fall back into the lecture mode. We feel that without this component of program quality assurance, many if not most lecture-trained instructors will gradually move back into the style with which they are more familiar.

To date, the students' daily evaluations and overall course evaluations indicate that they enjoy learning in a way that involves their ability to use life experience, common sense and past learning in a way that is applicable to their present position. It gives new students confidence in the "rightness" of their appropriate responses. Students have been overwhelmingly positive about the experience.

While our adult learners seem to prefer this approach to learning, the real proof of the long-term value of problem-based learning may come with the transition from the lecture model used for longer duration courses such as the Basic Law Enforcement or Corrections Academies. These courses will eventually be transitioned as the curricula are revised here in the State of Washington.

Here is a brief discussion of PBL and a description of why and how we believe it can be most effectively used in an agency in-house academy setting.

Problem based learning is a curriculum devised to allow the *student* to bring his/her knowledge, skills and life experience into the learning process. In PBL, participants have their own experience acknowledged while building upon that existing knowledge through the acquisition of new learning and skills.

The "problems" are designed in a way to be highly integrated. One problem can incorporate a week or two weeks worth information. It allows the student to build upon existing life experience/knowledge while incorporating new skills such as CAD, equipment operation, etc., with new knowledge such as policy and procedure. It may then require the participant/student to immediately apply the new knowledge in a real-life setting, designed by the agency. It allows the facilitator to immediately evaluate the student to determine if the new information is being assimilated and used appropriately.

Well-designed PBL "problems" will incorporate multiple learning objectives, outcomes and competencies. The organization can make clear its mission and priorities by continually reinforcing those values in each problem presented. An example would be if customer service is highly valued by the agency, then one of the core questions built into each problem might be "Who are the customers in this problem?" Additional principles such as liability may also be incorporated into each problem. An example of another core question might be "What is the legal duty owed?" or "In this scenario, where is there potential liability for the agency?" In this way, the student is indoctrinated into the mission and value-set of the organization, from the first days of training, in a way that they will internalize.

## Advantages and disadvantages of problem based learning:

- Advantages:
  - Early detection of students who may have difficulty:
    - Applying new knowledge
    - Working as a team
    - Getting along with others
  - New telecommunicators are able to employ good problem solving techniques early in training that prepares them better for the real job
  - Confidence based on knowledge and critical thinking skills that have been encouraged and developed early in training
  - Student internalization of core concepts such as customer/client service, safety issues for the responder and the public and liability reduction through repetition of core concepts and values throughout the curriculum
- Disadvantages may include:
  - Time and resources needed to change from lecture driven curriculum to problem based. It takes time to create the new curriculum that is highly scripted.
  - Buy-in of important stakeholders such as communications officers and most importantly, CTOs or one-on-one coaches to the new training method
    - The student that comes out of a dynamic PBL classroom should be much better prepared for the real job. PBL is designed to give confidence in decision making to the student throughout his/her classroom experience. As such, this student may perform differently from previous conventionally trained employees. They may be more willing to make their own decisions and apply their new skills.
    - CTOs should be part of the course development process so that the evaluation of these new employees reflects the anticipated competencies. They will also need to look at the way they may need to change their coaching with a more confident and skilled student.
  - Cost of re-training instructors into facilitators and mentoring of a new program

The WSCJTC Telecommunicator Program Office has put two forty-hour blocks of basic telecommunicator training into PBL. While we have found it effective for this

very generic basic type of training, where PBL can really be used successfully is in a longer training setting such as a several week in-house training academy.

One of the services we have offered PSAPs in the state, was to assist interested agencies in helping them develop a PBL based training course. We conducted a series of workshops for over a year, where trainers worked through the creation of a PBL curriculum.

Agencies wanted to know what significant advantages might be gained by incorporating PBL into their training academies. We believe that one real advantage will be the ability of the trainer to observe employee behaviors more realistically during the training. Most of us have had new employees who when given a written test during training, did very well, but when they were asked to apply it, were unable to do so at an acceptable level. With PBL, the facilitator is observing application of learning from the first day. It gives the trainer an opportunity to work with a new employee who may be struggling and either determine a more effective approach for this individual, or determine that this person will not be able to do the job required. The cost savings to an agency in making that determination a few weeks into training rather than months into training can be significant. It will also allow the trainer to investigate the reasons behind the poor performance, which may include a need the student has to have the information delivered in a different way. PBL can and should accommodate all adult learning preferences. We incorporate the use of Socratic questioning as part of the required facilitator training we conduct.

Training of your classroom facilitators is a critical component to PBL. Many excellent instructors find "facilitation" challenging because as lecture-based instructors, we are used to delivering all information to the students. Facilitators are there to "mine" information from the students. Facilitators want to observe the thought processes of the group and individuals as they work their way through scripted problems. We conduct our training with two experienced instructor/facilitators in each class. When we moved from the instructor-led, lecture-based instruction to PBL and the facilitated classroom, we assigned a "mentor" facilitator to each class. The sole job of the mentor was to signal the facilitators when they fell back into the lecture-mode, which most of us invariably did. The facilitation skills of your trainers will make or break your PBL program.

Other key players will be the CTOs or one-on-one trainer/coaches. Previous training probably had a new trainee coming out onto the comm room floor with their coach who took the place of the classroom instructor. This person gave them the answers, to a point, and may expect the trainee to act like trainees from previous training classes. However, if you have had an effective PBL classroom training experience, the trainee coming out of that classroom should look somewhat different. This person should have confidence in his/her decision-making capabilities and be more prepared for the problems s/he will encounter. It can be disconcerting to have a trainee who is confident, particularly if s/he has not done the job before. These individuals may be viewed as know-it-alls or over-confident in their (untested) abilities. For this reason, the coaches should be brought into the planning and course development process *as soon as possible*. Having the buy-in of the make-or-break coaches is critical. You would not want to invest in the time

and effort to create the PBL classroom only to have your new employees meet resentment or misunderstanding when released with a coach.

When developing your course, your agency's values can be consistently reinforced in the training. An example from our basic courses: When we script a problem, we state the problem/scenario for the groups. In our call receiver training, we have a series of "core" questions that we tell them will be repeated *on every scenario* for the entire week. After the second or third day, the facilitators may not have to ask these core questions, because the answers have become so engrained in the participant's minds. We use core questions for each scenario that read:

- Who are the customers in this scenario (there are usually more than one-we include responders, callers, other persons who may be effected by the call)
- What is the (legal) duty owed? (We bring in liability questions on every call-and discuss early in the curriculum liability issues)
- What steps do you need to take to answer this call? (This may include training on phone and CAD systems; call answering standards, answering techniques, etc.)
- What information do you need to obtain on this call? (This includes the W's, and order in which information is obtained)
- How do you terminate the call (this allows an agency to reinforce what information is given – or not given- to a caller at the conclusion of the call)

The core questions allow you to build upon previous knowledge. In the classroom/academy setting, you are able to integrate equipment, policies and procedure, all into the question. For the six month long RCMP academy, they only use 12 questions! However, the questions are of such complexity that it requires knowledge acquisition in all the areas of recruit training.

If you start your class with a first problem/question, like:

"You receive a call of a barking dog". What do you need to know to process this call?

You guide the group through a series of brainstorming exercises. You will have developed "anticipated responses", which is how you will emphasize correct answers or learning points.

As you debrief the groups, you will be able to ask questions that are more detailed. How did they arrive at this answer? What made them choose answer A or another answer? A good facilitator will reinforce positive learning points and be able through techniques such as Socratic questioning, to show the students' thought processes and validate or re-focus those processes.

One of the first things the students might answer is "Learn how to answer the phone". Your course can be designed so that phone equipment training follows immediately afterward (and can be reinforced for an appropriate period of time or number of problems so that the students really learn how to operate the phone system). Likewise, their responses should indicate that they have a need to enter the call into a CAD or other system for recording call information. You now build in the beginnings of your CAD or call processing training. Again, you

will reinforce this through every scenario, allowing you to focus on CAD call types, priorities, methods of recording the information, etc. You may also have a policy on responses to barking dog or non-emergent calls; you now incorporate this policy/procedure training into the scenario.

This example shows you how you can incrementally build your training, allowing the student to actually work through the processes needed to successfully demonstrate their knowledge or skill acquisition. In the meantime, you are able to observe each student in a more realistic setting, to help them improve or modify behaviors as well as enhance their learning environment.

I hope this overview has been helpful. There are books and articles you can find on the web that further detail the principles of PBL. There is not much available that deals directly with telecommunicator training. If we can be of any assistance to you in building your PBL curriculum or answering questions, please feel free to contact us at the Telecommunicator Program Office, 206-835-7351.