

# *Effective law enforcement training with virtual reality software.*

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Not so long ago, training a new officer was the responsibility of seasoned officers, who would pass along experience and tactics to the rookie through on-the-job training. This apprentice/journeyman approach essentially limited the training materials to the individual experiences of those senior officers and whatever techniques they deemed worthy. The law enforcement community has now recognized the need for additional training and has developed the field training system, where new recruits are exposed to multiple trainers with extensive experience. Trainers also recognized the practicality of virtual reality training, and have borrowed this technology from the military and other industries. Some early attempts at training systems, such as the FATS (Fire Arms Training Simulator) or some other simple decision-based systems were a small step forward. Often, situational simulations were created with a projector and a white sheet or paintball guns, which were better than practicing with rubber guns and imagination. Still, the law enforcement community recognized that training needed to be more 'real' to be really effective.

The intent of simulations is to immerse trainees in situations to see their real reactions, and to demonstrate what their subconscious tactical decisions might be if confronted in a similar manner. Law enforcement agencies already use simulations for driver training, target selection skills and use of force decision training. Each episode teaches and hones skills of individual officers which, in turn, helps officers make crucial decisions and enhances their ability to function.

New virtual reality simulations now let officers practice how they interact with people. Interaction through conversation, conducting interviews and interrogations, and taking witness statements and complaints are essential parts of everyday police operations. Interviewing and obtaining information from others is a skill, an essential element of communication that can be either taught through a lengthy classroom process or, now, through virtual reality simulation. Officers enhance their communication skills by increasing the brains' muscle memory by using simulations, similar to athletes building muscle memory while training for competition. One training system, developed by the Johns Hopkins University Applied Physics Laboratory has been used by the FBI academy starting in 1998. (See the FBI Law Enforcement Bulletin April 2000, p16) This system lets officers access and practice interview and deception detection through a simulation and has the portability of a DVD.

## **Practical Benefits**

Whatever the purpose, using simulators for training and for refreshers has many advantages over the old participation-based training. Where rewinding and repeating are not possible with real people, simulations can exactly reproduce any event for technique practice and assessment. By allowing the trainee to make mistakes, these simulations allow for

trainees to experience errors and consequences in a safe environment. This provides the recognition of alternative pathways to avoid failing in interviews. By repeating the scenarios, the student can and will change the outcome through guidance, practice and approach selection.

Virtual reality simulations are created so trainees are immersed in visual, auditory and sometimes physical experiences which enhance the learning curve. The military has long recognized the value of immersive simulation training, using sensory input stimulus along with muscle action to train soldiers. Engaging with simulations has been shown to be very effective at improving reaction and response times, critical decision processes, safety and skills.

## **The Technology**

Virtual simulation technology uses virtual characters. Characters can be either computer-generated simulations of humans, or computer-controlled videos of real actors. Training with a video of a human character is more effective than training with a computer-generated character because of the realistic nature of the interaction.

In SIMmersion's virtual interview called Hands-on Interview and Interrogation Training System (HIITS), trainees are exposed to a character portrayed by an actress who was specifically trained for the simulation. Her character is suspected of stealing sensitive files from her workplace. The character's response segments were videotaped and stored as part of the program. The trainee selects questions or responses to say to the character from multiple options available on-screen. The character has specific traits to mimic different personality profiles. A trainee may encounter a defiant, in-your-face character, or a withdrawn, sheepish, submissive person as the subject of the interview. The interviewer must initially determine if the interviewee is innocent or guilty of the alleged offense. The interviewee's responses are selected by the computer, based on the selections of the interviewer. The availability of remarks and questions changes as the interview progresses. Voice recognition is added as another virtual reality component, allowing the interviewer to converse with the character in near real time.

If the interviewer decides the character is guilty, he or she must attempt to solicit a confession and locate the stolen items. The outcome is dependent upon method of solicitation chosen, versus the personality traits of the character. If innocent, there are exit statements to choose to release the interviewee. If the interviewer makes a mistake, unlike interviews with a real person, this conversation can be restarted with the character having no recollection of the previous series of remarks and questions. The interviewer can start a new interview with an entirely different character by restarting the program. The computer will select a new persona at random to begin a new interview.

The feedback portion of the training is available after each session to guide the interviewer towards success. During the session, access to questions and remarks used by the interviewer and responses by the character are all available to the interviewer. Interviewers can take notes onscreen and get advice from an onscreen coach, who appears to assist with an evaluation of the interviewer's methodology, even during voice recognition sessions.

## **The Test**

Previously, this software had only been used to train federal officers and military personnel. The system was brought to Winona State University campus, in Winona Minnesota, where state and local officers were invited to a three-day training session. After the session, officers took the software home and practiced independently with it for one month. Eighteen officers, ranking from Chief to a reserve officer and representing a range state and local agencies, were trained on the virtual system. As officers interacted with the character, various levels of frustration were seen as officers

struggled to overcome old habits. Only one officer was successful in identifying all character possibilities during the training. A follow-up survey on the trained techniques use and perceptions of effectiveness was done one year later.

## **The Results**

Eleven of the seventeen follow-up surveys were returned (64.7%). The results showed that 72% of the officers had completed the training. 100% stated they found the techniques easy to learn and had already applied the techniques, with 90.9% stating the techniques were effective when used. 45% had tried to teach some of the skills to other officers. Additional remarks were that they would endorse this training, and some said they would return again and retake this training. Others remarked using this type of interview technique was effective when making investigative traffic stops, and helped with gaining the confidence of drivers. Remarkably, 100% of the officers stated they found the use of simulations to be an effective training mode for police officers. Several commented that this type of training would increase officer communication skills, making any contact more effective.

## **Conclusion**

It was clear that officers accepted the virtual reality training and were impressed with it. One officer commented that this “was a video ‘game’ for cops rather than about cops.” At the conclusion of the training session, officers stated that the techniques would assist not only in their interviews with suspects, but also in everyday conversations and field inquiries. The visual and vocal component, coupled with the realistic attitudes of the character, were the most impressive features of this training. “Making it more real” increased the value of the experience and “upped the learning factor,” according to other officers. The fact that the software was available to take with them and to have access to practice as much as they wanted was significant. The systems training model of providing the information, allowing for practice or application of the knowledge, and then giving access to feedback was an additional point officers readily admitted made this an ideal training tool.

Additional variations of this type of virtual reality training software systems should be created to simulate scenarios for practice in courtroom testimony, intelligence interviews, other criminal investigations, domestic dispute interventions, hostage negotiations, victim and witness interviews, informant recruitment and management, and school safety interventions. Versions should also be available for management to practice skills in topics from background investigation and ethical screening of candidates to screening for PTSD. Currently, SIMmersion’s other simulations offer training in areas such as nursing programs, autism awareness, performance counseling, victim advocacy, and suicide intervention. Access to several prototype versions are available through the SIMmersion website Training Center for free.

Virtual simulations in law enforcement have come a long way from the first Fire Arms Training Systems (FATS). With more powerful and compact computers and advances in technology, officers now and in the future will be prepared through technology in addition to the traditional apprentice/ journeyman model. Officers now can use simulations with visual, auditory and physical components to train in areas in which, before, mistakes made could have cost lives or jobs. Virtual training is an essential component of modern police training. An officer can now make a mistake and learn from the rewind and review, practicing and learning the appropriate techniques. This type of learning creates appropriate and necessary memory and trains the most important law enforcement muscle of all—the brain.