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A Summary of Research on Pre-Service Training… A Call for Action (May, 2018)

A new study, three years in the making, is about to be released by the Force Science Institute, documenting startling deficiencies in some current academy instruction and moving us closer to understanding the critical changes that are needed to reform law enforcement training.

Some of the highlights of the study's distressful findings, as well as potential practical remedies, are presented here. This is done so with the hope that you may take action to begin the challenging task of effecting changes that will improve the street performance of officers and strengthen support for law enforcement in our communities.

The task is not a simple one. But the risks from inaction should be a compelling motivation.

Background

For well over a quarter century the Force Science Institute has been engaged in a systematic effort to define and quantify the type, speed and dynamics of assaults and force situations officers may confront while attempting to keep the public safe. Force Science's has published more than two dozen scholarly, peer-reviewed, journal articles on its research in a dozen different types of journals from psychology to ergonomics, from criminal justice to law enforcement. The research has been conducted by the Force Science institute and also in conjunction with universities in the U.K, Canada and the U.S.

Curriculum for academies is rarely based on research. Therefore, the primary purpose of the Force Science research was first to establish an empirical foundation for training. An empirical foundation of the threat nature, speed, dynamics, and the contexts of incidences provides the best foundation for defining the type and quality of training and experience that officers need. After all, establishing the type of problems professionals

need to solve is the foundation of most other professional training. Even sports teams understand that the more the athlete knows about how someone with whom they are in conflict performs, and the type of problems they are likely to encounter, the better their preparation can be. However, this approach is unusual for the law enforcement community where most of the training is done on a "check the box" foundation established by a group of knowledgeable experts.

This problem is even more serious when assessing in-service education. In a personal communication, a deputy commissioner in charge of training for a large metropolitan police department said they spent 2.3 million dollars per year qualifying their officers twice a year on firearms. They did this despite not knowing why they did it twice a year and what they got from it.

The Initial Study

Facts**:** PetSmart requires 800 hours of employee instruction for dog groomers. Contrast this with the length of the average law enforcement academy of 840 hours (21 work weeks) in total, for everything an officer needs to function as a professional.

Several years ago, based on Force Science original research on threats, they were contracted privately by a governmental body in the U.K. to conduct an assessment on their psychomotor skills training and compare it to 1) modern principles of skills training, and 2) current arrest and control techniques taught in the U.K., Canada and the U.S. Data was gathered on the average academy training in each country, then two representative academies were chosen from each. Their full curriculum and teaching methodology were acquired and compared. One of the consultants on the project was Dr. Matt Pain who runs a biomechanics lab at Loughborough University in the U.K. His conclusion was that not one single country was conducting their force training in compliance with modern principles of learning to ensure effective skill acquisition, retention and performance. Some problems identified, out of many, were too little time in instruction so neither proficiency or automaticity were possible, little integration within the skill set as well as with complimentary skills such as communication, little real-world applications in a dynamic encounter, and little "realistic" decision-making. Simply, too much of the instruction was "silo" based and not professionally functional.

Consider this comparison: The average high school athlete playing one sport for three months for 4 years of high school will practice or play for a total of 456 hours. A law enforcement officer who has 60 hours of arrest and control training in the academy (the national average) will take all of their pre-service and a half a century of in-service training at one eight-hour day per year to equal that amount of practice. It was the conclusion that the duration and quality of instruction is severely deficient. A further conclusion was that few professions do so little and yet expects so much. This comparison becomes particularly onerous when it is noted that athletes routinely test their skills, tactics and strategies in competition, while in the academy recruits rarely encounter even semi-realistic applications. In the U.K. at the time of the analysis, the

academies did not have their cadets practice against any resistance for fear that someone might be injured in the academy.

There is no consensus within academies regarding the most effective training strategies that produce optimally prepared officers (Caro, 2011). The divergence in training practices is likely due to the paucity of academy training-related research (Lum et al., 2016). However, the President's Task Force on 21st Century Policing (2015) recommended federal funding for regional training facilities to "…promote consistent standards for high quality training…" and to… "develop rigorous training practices, evaluation, and development of curricula based on evidence-based practices" (2015, p.53).

The number and types of techniques for arrest and control vary, but the average academy spends 60 hours on instruction, with some being less and some extending out to 120 hours. Approximately two-thirds of the cadets after graduation will not get an FTO program (Reaves, 2016, p.4) and will receive only 1 or 2 days of in-service training per year in arrest and control techniques. This in-service is also often taught in Block format. The course content varies from 40 to over 100 arrest and control techniques. Skill proficiency exams exist in 93% of academies (Reaves, 2016), however there is no evidence of standardized or objective measurements. In 93% of academies where some grading is conducted to assess skills the assessment it is usually opinion-based by instructors and students and is often conducted as a group grading. Where it is done individually it is usually done on a five-point opinion scale. There is a need for empirical evaluations (Kaminski & Martin, 2000) to determine effectiveness and efficiency of academy training.

Regardless of the rationale for whichever skills were being taught by a particular academy, Force Science's primary concern was – whether the academy was teaching their choice of skills in a fashion that those skills could be achieved and retained by the cadet, such that they were functionally useful in conflict situations after the cadets' graduation? The focus of the research was on arrest and control techniques.

The New Study

Force Science compiled a team of Ph.D.'s, graduate students and project coordinators to investigate the training problem. They planned, then analyzed the data and wrote up the studies for a total of one year. They conducted and collected data in a two-year behavioral analytical study of skills instruction for a variety of complex and simple skills in three major state academies across the U.S. These academies are responsible for providing all or a major portion of training for officers in their states. They sampled complex and simple psychomotor skills and amassed 10,000 videos across dozens of visits to the academies and conducted thousands of hours of sophisticated analysis for both the acquisition and perishability of the skills taught.

They discovered that in all three academies, the typical delivery of instruction was not sufficient for the cadets to achieve mastery criterion of the skills, even immediately upon completion of instruction. On average, **simple psychomotor skills** deteriorated within two months to the point where major gaps in the skill or quality of overall performance had made any successful, realistic application unlikely. After an instructor's evaluation of a group's proficiency, **complex motor skills** for the average cadet had deteriorated to below 60% proficiency in two weeks from the point of instruction. At this level of instruction and assessment, the skill could not even meet minimal academy standards and often was not practically functional in a combative situation for the cadets. If one wants to ensure great performance and decision making in real world encounters it appears one might start with the very basics of what and how those skills are taught. Any training on decision making and the integration of force skills with other skills such as de-escalation is based on successful and automatic performance of all of the skill sets involved.

Block (or drilled) training is relatively inexpensive and easy to implement. The methods of instruction used to teach the arrest and control skills assessed in the study were all some variance of the block method of training. Considerable previous research has found block training to provide the fastest way to acquire a skill but ironically also the fastest way for the skill to perish. Block method of instruction appears to be characteristic of other areas of instruction and assessment across the academy curriculum. Perhaps this is because the use of block training provides rapid, short-term improvement but it is at the expense of long term retention. The short story – the learning doesn't stick. This study, which is currently under peer review for journal publication is a foreboding that the academy process needs significant study as requested by the President's Task Force on 21st Century Policing (2015).

Recent studies, (Bozeman et al., 2017) indicates the use of force is extremely rare in the police world, 0.086% of all calls for service and 0.78% of all criminal arrests. This result is similar to those found in Hall, 2013, Baldwin et al.,2016, Baldwin et al., 2018. The same result in all studies -- the use of force is less than one-tenth of one per cent in over 20 million police citizen encounters in both Canada and the U.S. Physical control techniques in Bozeman's study accounted for 50.8% of all use of force. In Hall's study it was 77%. Unarmed physical force resulted in over 1/3 of the significant injuries seen in the study, including head injuries and bone fractures. Still, the likelihood of physical control "producing a significant injury remains less than 1%." However, it is primarily arrest and control techniques and deadly force that is responsible for the community protests in cases of "lawful but awful "and also in the majority of civil suits in the U.S. These law suits annually total hundreds of millions of dollars against communities. The riots and protests are expensive and destructive. Also, ineffective physical control by officers in some types of situations and with some subjects involving higher levels of physical violence by the arrestee, resulted in high levels of injury to the officers. Simply, use of force is rare but very expensive, especially when it is not done well!

Both elements of force (deadly force and arrest and control techniques) in their professional acquisition in the academy are mostly taught in block format. Therefore, they are subject to the criticisms noted in Force Science studies for block training and the failure for effective integration of clinical skills, critical diagnostic assessment of situations and appropriate and effective decision training.

Observations:

During these academy studies, several observations were made that are worth mentioning.

Despite tremendous commitment and accreditation in whatever skill they were teaching the average instructor:

a. Was really distressed by the results of the study. Their subjective group evaluation was significantly different than the objective, individual, video analysis based on the same evaluation criterion utilized by the instructors.

b. Was severely handicapped in their instruction by time, budget and resource constraints. This was particularly true given the number of techniques they were required to teach within the designated teaching hours.

c. Frequently did not provide effective and consistent corrective feedback during their instructional units.

d. Often seemed unaware of the effective biomechanical performance of the techniques, particularly when instructing a variety of physical stature, strength and skills found in cadets.

e. Did not structure their programs in a fashion that utilized modern principles of how humans learn psychomotor skills or that promoted skill acquisition and retention.

f. Did not utilize effective measurement tools to determine that the skills were actually learned.

g. Did not teach effective clinical integration. Generally, before graduation cadets perform on a number of scenario-based units, but these were more demonstrative than actually capable of teaching or measuring clinical integration. Any discipline that teaches clinical integration and decision making certainly does it differently than what has been observed in academies.

These problems alone would impair learning regardless of the teaching methodology.

Implications for Remedies

The Force Science Institute is currently researching ways to expand the research to assist academies in becoming more effective within the time and dollar constraints found in most departments. For example, FSI has successfully improved trainer and cadet performance in two large academy classes with small but significant changes.

Understanding the magnitude of the problem nationally, Force Science optimistically recommends the following:

1. A comprehensive assessment be conducted on the complete process of academy training. The goal being to find if the academy can be conducted much more successfully and efficiently than was observed in the samples and can be done within the dollar and time constraints that currently govern the process.

2. Besides specific skills accreditation it should be required that all instructors have training about the application of human learning and performance principles to psychomotor skills acquisition, retention, and performance.

3. Techniques should be taught in an interval format and clinically integrated with all other skills across the academy.

4. A major portion of the academy be dedicated to decision making and integration of all clinical skills that are taught throughout the academy, including crisis intervention and de-escalation.

5. Evaluations for achievement be conducted individually on each participant. This also must be evidence based on individually documented and objectively demonstrated skills at the time of graduation. This evaluation must include decision making and clinical integration exercises.

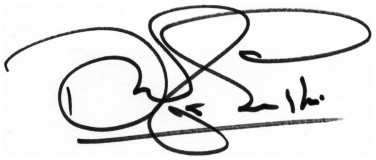
6. Curriculum should be structured in a sequential, evolutionary format. This will provide a total curriculum which evolves into a complete, comprehensive professional practice such that each step is based on the proceeding ones as much as practically possible. The total practice should include sequential and integrated decision-making opportunities. In this fashion, the graduate will be a fully evolved professional clinician, who can clearly demonstrate all of the skills in consort with all the others as the situation requires.

In the interest of improving law enforcement education for the good of officers, agencies and the public the entire staff of Force Science is ready to work with you in any way possible. We are offering to bring to the table staff resources such as support

personnel and research resources including our main research staff, consulting staff and some financial resources.

We enthusiastically welcome the opportunity to further discuss or consult on the issues detailed in this document, explore initiatives that can promptly be put in to motion to forward this mission and directly participate in the work that will be involved. To that end, please feel free to contact me directly at any time.

Sincerely,



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May 6, 2018