[Dan Seed] Hello, and welcome to the premiere episode of “Big Ideas,” a podcast from Texas State University in San Marcos, Texas. My name is Dan Seed and I'm a lecturer in the Electronic Media sequence in the School of Journalism and Mass Communication. I'll be your host as we speak with some of the most interesting minds from our university.

Our guest today is Dr. Pete Blair from the School of Criminal Justice. Dr. Blair is the executive director of the Advanced Law Enforcement Rapid Response Training (or ALERRT Center) here at Texas State. Dr. Blair, thanks for being here.

[Dr. Pete Blair] Thanks for having me.

[Dan Seed] So, Dr. Blair, tell us a little bit about your background. What drew you to criminal justice and eventually into what you do now?

[Dr. Pete Blair]: Well, in my misspent youth I worked for what would be best described as a private investigative agency doing interviewing interrogation-type work. The group that I worked for actually did a lot of training of law enforcement around the country, in that, and I decided to go back to grad school. And when I was in grad school, I got involved in doing research. I came back, got my first academic job down here in Texas and then moved up to Texas State in 2007. I didn't have any background in tactical policing or active shooter or active TAC-type response or research, but the ALERRT Center was already here, and they had looked to make a connection on the research side of things for quite some time. My chair at the time said, ‘Well, you’re a junior faculty member. Why don't you go over there and talk to them and see if you can be a fit?’ So, I went over and talked to them, and basically said what I told you, which is, I don't know much about the tactical policing world or active shooter events or active attacks, but what I do know is how to design, research and answer questions. I started doing some research work for them and over time, I got very passionate about it because I realized this is another one of those areas that there was very little research in, and it was an area I thought I could make a difference and hopefully save lives.

[Dan Seed] So, let's talk about ALERRT. Its mission is to provide the best research-based active shooter training in the nation. What has your research shown with regard to what makes

for the best or the most effective training practices?

[Dr. Pete Blair] So, first of all is understanding what these events look like. There was very little research at the time when I first started working with ALERRT. We started to collect

information on the events to try to move it from being anecdotal-type stories into a more overarching pattern trend, what we see happening in these events. We also got involved with the FBI and their active shooter group. And so now when you see the actual FBI numbers that come out, those are part in parcel with us and so we're heavily involved in that side. We also have a tactical and a research where we look at the specific techniques or tactics that we use, so there's a question about doing ‘A’ or ‘B’ when I'm trying to enter a room for example, we'll put that into an experimental design. We'll do a true experimental test on it and see if one works better than the other and if they do, then we'll adopt the one that works better. If not, then we'll make an argument for why we're going to choose whichever one we're going to choose. That's kind of the research background and one of the things that we've seen though is that we deliver our training what we call ‘mass practice.’ You show up, you do two days or five days of training and then you move on. We know that there's a better way to do training which involves smaller doses of training over longer periods of time and that's one of the things that the AR and VR technology will allow us to do is after doing that initial training, to leave equipment with people and continue that training to hopefully at least maintain the skill level they got during the class. But beyond that, we really want to see or hope to see that they'll improve in their skills and abilities as time goes on and end up being better.

[Dan Seed] And we'll get into the AR and VR, which is a fascinating field and obviously one that you know at the forefront now in terms of technology in a number of fields, and including in media. People looking to get into AR and VR to communicate better with people in other professions, as well but I want to get back to the FBI aspect, which is really interesting that since 2013 the FBI has used ALERRT as their standard for active shooter training. Why is that or how did that come about in terms of ALERRT separating itself from everything else that's out there?

[Dr. Pete Blair] Sure, if you go back to 2012, at the end of 2012 is when the Sandy Hook elementary school shooting happened. There was a big outcry from the public, as well as the federal and local governments to try to do something about it. On the federal side of things, the

executive branch asked, ’Who do we have that's providing active shooter training?’ We were proffered forward by BJA because we've been funded by the Bureau of Justice Assistance for a while at that point as here is a program that we have. The FBI then looked at us and looked at some other programs to vet, which one they thought was the best program and while there are lots of programs out there around the country that have expert police officers who are tactical

experts, SWAT team members, that sort of thing providing active shooter training, to our knowledge we're the only one that actually has a real research-based empirical basis to what we do where we're trying to actually validate what we do beyond just the experts say this

is what it is but with data and research.

[Dan Seed] So you're talking about your research and using the data to back up what you're doing. Can you give us an example of stuff that you've looked at that and how you do this and accomplish this for folks that maybe aren't familiar with what happens in terms of research?

[Dr. Pete Blair] Sure, one of the things we've been doing right now is a deeper dive into events where police officers have been shot in the response phase at some portion and trying to parse out exactly when are they shot during the event. Are they shot on an initial arrival before they even make it in the building? Are they shot inside the building? Are they shot during other times when things are occurring? So one of the things that is an initial finding we have from this line of research right now is that a lot of police officers are shot between the patrol car when they first arrive on scene and get into the building. Currently, active shooter training oftentimes doesn't do much to address that phase of the response getting from your vehicle to the building. Now that we've seen that, we'll start to look at that more carefully and look at what are the best tactics we can start to teach people in order to get from their vehicle to the building safely when they're responding to the event.

[Dan Seed] And so when you hear research like this, it's really no wonder that you've had more

than 130,000 law enforcement officers come through ALERRT and even more than 200,000 civilians have done it that those are staggering numbers.

[Dr. Pete Blair] Yeah, so on the civilian side I think we're getting closer to a half a million. The way that we touch civilians is not directly. We train police officers and now Fire-EMS personnel to go back to their home jurisdictions and then train civilian response to those jurisdictions. We offer a very small carrot if you report back the numbers of people that you train to us, we will send you certificates for you to put your people's names on to give them for the class. For some people that's important, but for a lot of people we know training, it's not. Right now, we're getting close to a half a million names or half a million people that they are civilian response trainers, have reported back to us that they've touched and trained. We really think that's just a tip of the iceberg.

[Dan Seed] Is that a number that you've seen skyrocket over the last few years? The

FBI numbers that you mentioned, just looking at them, the FBI numbers bear out that about 42% of all active shooter incidents in this country since 2000 have happened in the last five years. Are you seeing that demand more and more?

[Dr. Pete Blair] Yeah, absolutely. Whenever you see an uptick in the number of events happening or you have a particularly severe event happen or one that captures the public

attention, then you see a lot more requests for training and help.

[Dan Seed] [Are] these civilians or these are these people in schools, businesses, across disciplines?

[Dr. Pete Blair] Everywhere. The idea of the civilian response is that you go back to your

home jurisdiction as a trainer and you train anybody who asks. It involves businesses, schools, churches, all kinds of things.

[Dan Seed] And did you ever think, back in 2007, when you came here that you would see this demand for that kind of training?

[Dr. Pete Blair] Never.

[Dan Seed] When we talked about police training you mentioned the idea of the incidents that happened mainly from the car to the response to the incident. I would imagine that's one of the major deficiencies that you're looking at in terms of training. What are some of the other deficiencies and the current standards for training that you guys have identified and that you're

working toward solving?

[Dr. Pete Blair] The major one we saw is that, the last is the from the car to the building. But before that, one of the things we saw is that the initial training that was provided to law enforcement dealt with what we call ‘stop the killing phase’ of the event. The attacker is up there creating new victims, [and] we need to stop the attacker from creating any more victims. That's where the original training for active shooter response kind of stopped. There was a little discussion after that about what you should do but not much. And when there was discussion about what you should do, it generally involved doing a systematic search of the building to make sure that there's not another attacker in the attack site. Which certainly, that's something to be concerned about. And we know early on in these events, we typically see that there are reports of a second shooter, even though most the time there's only one shooter. But, the thing that we are ignoring at that time is that they're people who've been critically injured and they need medical assistance as quickly as they can get it, and if they don't get it they can die in the next few minutes. So, that's when we started to start shifting gears and look at what we call the ‘stop the dying phase’ of the event. After the killing has been stopped, the shooter has been stopped, now weve got people [who have] been hurt, they need that medical assistance. We started providing medical training to law enforcement officers to provide that point-of-wounding care to stop somebody from dying at their feet. Primarily, that medical training was taken from the military's T-Triple C, which is Tactical Combat Casualty Care, which is lessons learned on the battlefields, and then brought back to the United States and brought back into civilian medicine. So it’s called ‘Tactical Emergency Casualty Care’ in the civilian context, but how to stop massive bleeding, a little bit of airway management, some tension pneumothorax prevention and then some hypothermia prevention. [We are] providing law enforcement officers with that basic skill set to stop somebody from dying at their feet. Anecdotally, we know that that training has been successful because there are police officers, we know today that are alive because of that medical aid that's been provided. There are also civilians that are alive because of that medical care that's been provided. We just had an officer here in San Marcos for example, that was hit on the roadway not too long ago and severed her leg. First officer to arrive on scene applied a tourniquet and saved her life. We know that that medicine works that way, and also as we look at the long-term trends, one of the other projects that I've been working on is looking at the survival rate of people over time, and what you see is as we go further into these events along the timeline, we're actually seeing that fewer people are dying. It's not a decrease in the number of people being shot but fewer dying, and that may indicate that some of these efforts that we've made to do the medical training for police officers and then also for fire and EMS have started to pay off and are saving lives.

[Dan Seed] It’s fascinating and incredibly timely research and work that you all are doing there. You mentioned the training that you're doing here. Give us a glimpse in terms of if somebody were to go through your training without, you know, spilling secrets or whatnot. What are we looking at here? Is this a classroom technique combined with fieldwork? What does the fieldwork kind of encompass at this point?

[Dr. Pete Blair] Sure, it's a combined approach so our current level-one class which is our basic

introductory class for law enforcement officers starts with a little bit of time in the classroom telling about what active attacks are, how they unfold, basic techniques and things for responding to the events. There's a short lecture block and then we try to get them out of the classroom and up doing skills blocks. That's where we take a particular thing they're supposed to learn, they practice that thing, and then they move on to the next area. They practice that, they move under the next area. That's all of day one, and then day two is scenario-based training, so part of that scenario-based training involves force-on-force, where we have real firearms that have been rechambered to fire a special training round. That round stings and leaves a mark when you get hit with it, to make it a realistic type environment so they're getting some stress inoculation to prepare them for that environment, and then we also do some where we don't have simulations where we're focused more on the communication and coordination between people to make sure that they get that part of the response right.

[Dan Seed] That segues, I think, naturally into what your big idea is and what your pitch is, to evolve training into that future and into that next level. Could you talk about what

your big idea is?

[Dr. Pete Blair] The basic idea is to apply AR, which is augmented reality and VR, which is virtual reality technologies into the police training environment. Now our natural first segue into that is in the active shooter active attack training realm.But we also are seeing that there is room for training in just about anywhere in the policing world particularly in use of force, especially when you see the news. It's hardly a week goes by now that you don't see some event where a police officer was involved in a shooting with someone and the public looks at it and says, “I don't know how that happened or what happened?” The idea of advancing police training that way so that they're better in their use-of-force decision-making in actions.

[Dan Seed] How does this virtual reality, augmented reality training enhance that decision-making process? Is it because you're able to do it over and over and over again?

[Dr. Pete Blair] Yeah, that's exactly it. One of the problems that we see right now in police training is this idea of the batch training where they get a single training class, such as we offer now, a two-day class, and their skills improve dramatically during that time. Then it's up to the department to maintain that training beyond that, and some departments do a great job of that

and they really are on it and they really help their officers improve. Other departments, once they've been trained, that's kind of the end of it and the skills then begin to drop off very rapidly. The idea of using augmented reality and virtual reality is to have something we can leave behind that allows them to continue training over time to one at least maintain the skill

set they developed but hopefully to improve beyond what they developed.

[Dan Seed] I think it's I think it's fairly obvious how the project impacts not only the

local community but the society as a whole, to give police officers that that kind of training to make them better and make them more for lack of a better term efficient in situations like this. In terms of what you all do, obviously you're nationally recognized, obviously ALERRT is the standard, but how would this idea turn Texas State into a national leader even more so in this field?

[Dr. Pete Blair] We already have some people that are doing AR and VR-related research. The thing that's going to make it different is adding in that deliberate practice component along with real solid empirical-based and valuation of does it work? It's been interesting, we've actually talked to a few different VR vendors right now and asked them, “Do you have any validation research on that what you do actually works?” and they don't. They think it does and we believe that it probably does, too, but we haven’t really developed that knowledge

Base to say, “Okay, let's demonstrate first of all that it works in practice and then let's find out what works best. And how do we implement this the best way that we can? That's really where Texas State I think has the opportunity to come in is not just in the development of the AR and VR technology but also, in the how to implement and utilize that and validate the technology.

[Dan Seed] Not only is this beneficial in your area, this could go across multi disciplines. Correct?

[Dr. Pete Blair] Yeah, I think once you get the basic problem solved of how do you structure that training in the AR/VR or environment, what you specifically trained in is then wide open. You want to train teachers in classroom management, you can do that. You want to train nursing students and those types of skills, you can do that. I think that once you have that basic problem solved or the basic understanding of how it works, then the door is wide open to just about anything.

[Dan Seed] At the university, of course, education, nursing, two of the big major programs that we have so, it would definitely benefit across that spectrum. So at the end of the day, for you what would make this program a success?

[Dr. Pete Blair] If in providing the training, we improve the skill level, and we see that that translates into saving lives, that ultimately is what matters most to us is that. Everybody who works in our organization is concerned about how do we help save people's lives during these

events and whether that's better response on the part of civilians, better response on the part of law enforcement, better response on the part of fire and EMS. We're not concerned about who it is in particular. We want to help everybody do better so that we can protect as many people as we can.

[Dan Seed] So what's the timeline in terms of implementation of this idea where are you now and what's the end goal?

[Dr. Pete Blair] During this semester, we're starting our first official validation of the technology and again in looking at the different VR vendors that were out there. We asked, ‘Have you ever validated this?’ And they haven’t. What we're doing this semester is a basic experimental design where we're putting students in an active shooter-type situation, having

them respond to it and we're recording their physiological response. Things like heart rate but also a lot of blood chemistry markers like cortisol and things like that. We're looking to see what levels do we see when we do real-life scenario-based training? And we're hiring actors to really take our scenario-based training beyond what it normally is in a typical class where it's just the participants acting, so we're getting real actors. We're using moulage, which is the fake blood and that sort of thing that you use to make it look like somebody's actually been injured, and then we're having students navigate through a scenario like that, testing their biochemical responses to that situation. We're going to use that same scenario converted into a VR format, and have students negotiate in that VR format to see if we produce responses biophysically that are similar to what we saw in the actual live-action training. Assuming that that works out the way that we think it is which is they'll be similar to each other, then we can say, ‘Okay, this VR training is analogous to you doing this live-based training, and that really gives us our first validation that okay, this seems to be realistic training and it seems to work well, which means it can be substituted for that live-action-type training.

[Dan Seed] Which obviously is a major concern for you that we're going from that virtual world and we're able to carry that over.

[Dr. Pete Blair] Yeah, that's exactly what we are concerned about is we want to see that we're actually producing stress in people because a large part of what we do in the live-action training is stress inoculation. We're exposing them to something that's as close to the real event as possible without exposing them to danger, so that when they actually encounter a real event they'll be better prepared for it and what they're going to feel physiologically when it happens.

[Dan Seed] All right, well, Dr. Pete Blair, anything else that you'd like to add or say or that we didn't touch on?

[Dr. Pete Blair] No, I'm good, thank you.

[Dan Seed] All right, so Dr. Pete Blair, thanks for joining us on our first episode of the Big Ideas.

[Dr. Pete Blair] Thanks for having me on.

[Dan Seed] We'll have more episodes forthcoming. Thank you for joining us, I'm Dan Seed for the “Big Ideas,” have a nice afternoon.

[Jayme Blaschke] “Big Ideas” is a presentation of Texas State University. Subscribe to experience more innovative, thought-provoking content. If you like what you hear, consider leaving us a star review, five if possible. The views expressed during this program are those of the individual participants, and do not necessarily represent those of the university. “Big Ideas” is hosted by Daniel Seed, produced by Jamie Pulaski, with technical assistance provided by Manuel Garcia. Special thanks goes out to Dan Schumacher.