

PRESENTATION
INSTRUCTIONAL MANAGER'S SEMINAR
Fort Benning, GA, 25 Sep 1975
by: MG PAUL F. GORMAN

The subject that we are addressing is a matter that has been on my mind and, I must say, in my heart since at least 1971. What I am about to deliver to you represents, therefore, the product of at least several years of thinking. I offer it for what it's worth. I'm not quite certain how it will relate to your agenda. I remarked when I came in the room that I would hope that if I seem to be somewhat afield for what it is that you're concerned with, your questions will direct me back on path.

When the Commanding General of the TRADOC thinks about, talks about, the Infantry School, more often than not, he raises the question:

WHAT TO TEACH?

General Haines before him was similarly disposed. They were perforce preoccupied with the content of the course at the Infantry School -- what is it that we are teaching the captains or the sergeants, what is it that we are putting across to the lieutenant. And that's a legitimate question. What I want to suggest at the outset is that it is a less interesting question than some others that need to be asked about what's going on at the Infantry School, and that you really can't get to answering the CG's question until we ask some other questions. The same sort of observation is true about the questions that the Deputy Chief of Staff for Training at TRADOC asks about the Infantry School, or those his predecessor, the DCSIT for CONARC, asked about the Infantry School:

CG: WHAT TO TEACH?

DCST: COURSE LENGTH?

Us staff "wienies" who have to worry about such matters concern ourselves with course length, primarily because that's our shorthand for resource investments in the Infantry School. We provide you manpower and money, by and large, in relationship to the length of time that you hold the students here. Again, ours is a good question, a necessary question, I suppose. It certainly keeps us staff "wienies" employed. But it doesn't go to the heart of the matter that you gentlemen ought to be concerned with. About all I can say re that question, for your further perusal, is that it is a very serious matter for an Army that is trying to pack into a 785,000 end-strength those 16 divisions where there were, just a year or so ago, 13-1/2. The generating of the spaces to accommodate that structural

expansion is stressing the Army as it has not been stressed in this generation. I'm not certain whether you have been tracking what's going on out in the divisions, but it's a rare outfit that's got a man with as high rank as an E4 to command squads or tanks because of what has had to be done in order to support Brigade 75 and the activations of divisions. Down at Fort Polk, General Haldane bringing together the 5th Division, activated a tank battalion recently virtually without NCOs, and ran them through a tank gunnery session, their first, with almost no experienced tank commanders, platoon sergeants, etc. He did it with entry level soldiers. That the Army is so pinched says something about the pressures that are on TRADOC's undertaking. The program 8 of the Army is viewed in Washington by members of Congress, by the Office of Management and Budget, and by and large by the staff in the Department of Defense, as "tail," and there is enormous pressure upon us to convert that "tail" to "teeth." Every day that we keep a soldier in the training base is, in the sense that they view it, a day robbed from force structure, a day that the interests of division commanders, of readiness are not served by those individuals that we have in training. Washington is impatient, therefore, with the length of our courses. That interest, that impulse to convert tail to teeth, I tell you is voracious! There is a DOD team descending upon your colleagues at Leavenworth this week, and they are going to be asking very hard questions about why is the Leavenworth course as long as it is; why does it consume the number of officer man-years that it does in a particularly crucial grade; why is it that we are doing what we're doing at Leavenworth vis-a-vis an elective program; why is it that we are in a degree granting mode at Leavenworth. These questions may be preliminary to some meat ax management on the part of the Department of Defense, or possibly even some Congressional action. Finally, I think you are all aware of the pressures that are materializing within the Senate, particularly within the Senate staff, on the issue of instructor-to-student ratios, and the general conviction, or prevalent opinion, or conventional wisdom that TRADOC operates a very lavish school system compared to Harvard, or the Meriden Connecticut High Schools, or any other school system. It is the conviction of these people that the United States Army does training in a very luxurious, gold-plated way. So I tell you that the preoccupation of we staff "wienies" is a real one. You can get taken from the blind side by these people. Please be aware that this is a kind of a no-kidding game, that they've got some legislative clout behind them, and that unless we have very clear, cogent answers to questions about course length, we are going to get caught out. But again, that really shouldn't be the preoccupation of the faculty of the Infantry School, certainly not most of you guys who are in the instructional departments. There are other questions that you should be asking and addressing in this workshop, most importantly:

HOW TO TEACH?

How do you teach? Now, at the outset I want to suggest to you that most answers to that question that I have heard here at the Infantry School have centered around what I call "explicit answers."

You know, when I ask how do you teach, I am told that the class is a conference, or it's a demonstration, or we're on the range, or I get some sort of palaver about "we've been in 200 man groups," and "we're going to compartmentalize the 200 man classrooms and build 50 man classrooms so we can go into a small group," or "it's a seminar," or "we're considering syndicates." The tendency is to describe the mechanics, the sort of setting within which the teaching experience takes place. What I want to convey to you here is that you are ignoring in many cases what one might refer to as the implicit answers:

HOW TO TEACH?

• EXPLICIT ANSWER

• IMPLICIT ANSWER

The students in your courses carry from here into the United States Army notions about teaching, about training, and notions about learning that they gather implicitly from the way you do business. If the Infantry School repeatedly subjects the students to learning situations in which the teacher appears before them in a starched uniform, polished boots, and a lacquered helmet, and is surrounded by wooden apparatus, such as that (taps podium), or a pointer held in a specific manner, the student derives certain impressions about how Army training ought to be conducted. Now that's very good. I think any one of you would say "great! That's what we ought to be teaching!" I want to assure you that the impressions are very powerful. I went from here to the 4th Infantry Division, which was then conducting Advanced Individual Training in its units. I went through the experience of calling in a battalion commander, telling him "OK—you're going to start AIT for the following groups next week. Set to!" Then I would go out and watch the process. The scramble for podiums and blackboards, and pointers and lacquered helmets, and the rush to get the starched fatigues and the boots was a marvel to behold! Whatever it is that we are doing here at the Infantry School, we have succeeded in conveying implicitly that that's the way Army training ought to be conducted. I don't personally have any objection, incidentally, to people wearing boots, starched fatigues and using pointers, podium, provided that there is something else going on, provided that he who is conducting the training is, in fact, teaching. But more often than not, what the man carries away from here rests fundamentally on the externals. He derives models in his mind of an approach to training that he simply cannot apply usefully in the unit environment, or that he can apply only by the expenditure of enormous amounts of energy which might better have been directed towards other ends. What other ends? What is it that I'm driving at? Let's look at a couple of models of training:

MODEL A	MODEL B
<u>FIXED</u> •PRINCIPLES •PROCEDURES •PRECEPTS <u>MOI</u> •INCULCATION <hr/> PRACTICE	

I'm going to be painting extremes. Model A assumes that there is a fixed body of knowledge which has to be imparted or communicated to the recipients, the students. There are principles, there are procedures, there are certain precepts or modus operandi that are essential to effective performance of duty, and it is the duty of the school, or the function of the instructor to impart these. Accordingly, there is a lot of attention paid to something called "methods of instruction" and what is really meant by that is inculcation. There is a priesthood established. Usually the faculty become priests and, indeed, they have the trappings of a priesthood. More often than not we will hang on them some sort of vestments or "dinguses" on their breast or whatever, a badge of office. We will indicate to the uninitiated that these, the badged, are the annointed, and we invite the student to sit at the feet of the annointed and receive the word. He is graduated. Then the school bows out. The student goes forth, and is expected to practice what has been imparted to him here. The school bears no responsibility for what takes place out there. What takes place in practice is not the concern of the school. That's the responsibility of the individual, and, indeed, if he fails, it's simply because obviously he didn't pay attention while he was there at the school. If you were to ask a school operating on that model to describe the ideal student, you would get answers like:

ATTENTIVE

RESPONSIVE

ADEPT

STUDIOUS

He is attentive, he is responsive, he is adept at taking the school word, its inculcation, and applying it in the little examinations or exercises that are set for him. He is studious, meaning he takes the precepts, and he gets them down very well, and he is able to regurgitate them on command. Above all, with this sort of school model, there is a pre-occupation with process. For example, when you ask a service school operating or influenced by such a model, what is it that an S2 does, it begins to describe the steps that an S2 goes through in the process of being an S2. They begin to give you a description of a day in the life of an S2. He does this; he does that--step A, step B, step C. Pre-occupation with the process leads to a guy, as this model would have it, who can fit readily into a mold, a precast. The graduate is a stamped product. General DePuy's description of such a school is to point: he refers to sausage factories. You know, you have these empty casings come along the assembly line, and you jam them full of your knowledge. They come in one end, and they go out the other. What I want to get across here is not that I am painting a picture of the Infantry School. I am not, seriously. I am simply suggesting that many gents who launch on instructional systems design bring to that undertaking ideas that are colored or influenced by mind sets that begin here--with Model A:

MODEL A	MODEL B
<u>FIXED</u>	
•PRINCIPLES	
•PROCEDURES	
•PRECEPTS	
<u>MOI</u>	
•INCULCATION	
<u>PRACTICE</u>	

This is the traditional American picture of the school. This is the factory model. This is the way most of us went through grade school and high school, and not a few of us went through college. It's not a bad way of doing business. By that I mean that if the name of the game is to get a man qualified to drive an automobile, and you're interested in his mastering minimum safe performances, Model A is a perfectly acceptable way of doing business.

But supposing that your undertaking, what it is that you're up to, is not readily matched to that model? Then your instructional system design is in trouble. What I want to suggest to you is such is the case of the military profession today. Whether Model A worked 30 years ago, or 20 years ago, or 10 years ago, I cannot say. I don't know enough about schools in those days. But I can tell you that Model A is ill-suited to the pursuit of our profession today. Why? Well, essentially because what you and I are now concerned with is a body of knowledge that is not fixed. The word dynamic--

MODEL A	MODEL B
<u>FIXED</u> • PRINCIPLES • PROCEDURES • PRECEPTS <u>MOI</u> • INCULCATION <hr/> PRACTICE	<u>DYNAMIC</u>

a word with somewhat painful memories for me--conveys the problem. You've heard General DePuy talk many times about the dynamics of the modern battlefield. He is talking about the impress of weapons systems, of organizations, of tactics and techniques, each of which is changing. Change is the order of the day in the military art! Look over there (points to weapons systems pictures). There you see a set of weaponry that has revolutionalized the position of the infantry on the modern battlefield. We've got a weapons system in the TOW that can sit outside of the range of the tank, and pick it off. And it's an infantry weapons system. And it can be taken anywhere we want to go. Parachute, helicopter, APC, foot soldier. And we have a very high probability of being able to kill tanks with that weapons system. That breakthrough in technology, you know, has happened just within the past few years, and there are other similarly new weapons systems. Some are depicted here. And there are other devices and weapons in development that are further going to change the Army. Anybody that is persuaded that he has a fixed body of knowledge to impart to members of the military profession is disadvantaged, handicapped, probably cripplingly so. What we soldiers have in hand is what I refer to as an evolving art.

MODEL A	MODEL B
<u>FIXED</u> • PRINCIPLES • PROCEDURES • PRECEPTS <u>MOI</u> • INCULCATION <hr/> PRACTICE	<u>DYNAMIC</u> • EVOLVING ART

We are not quite sure anymore just how to practice our art. A beautiful example emerged down at Fort Hood during the recent rehearsal for the OFTCON. The problem in hand was a division commander handing off an attack helicopter company and some TOWs that he had taken from a left flank infantry battalion and he wanted to move them over on the division right flank to reinforce in the area of a heightened threat, a materializing serious threat to the divisional position. The general was concentrating his force, and the problem that came up is how exactly does one do that? What does the general say to the receiving brigade commander? What does the radio transmission sound like? How does that transaction take place? There were several tries you know, some two-star tries, and then some three-star tries, and then finally we had a four-star answer. None of them were very good answers. It ended up in a big, long, complicated series of transactions, presumably on an FM net, which you and I both know is kind of unrealistic. How does the process of communication among commanders take place on the modern battlefield? This Army of ours really doesn't know a whole lot about doing that under EW stress, or doesn't know enough about it. DePuy is now saying again and again in his speeches, and he said it down there at Fort Hood after trying to worry that problem through, that our Army has got to find better ways of practicing our colonels and our lieutenant colonels in the art of controlling forces on the modern battlefield. Meaning precisely that we don't know all the answers and that we've got to find better ways through practicing. There the CG was foreshadowing an approach to training that would fit more on the Model B side of the ledger than on this side of the ledger (Model A). Certainly as opposed to procedures and precepts, Model B is more concerned with relationships.

MODEL A	MODEL B
<u>FIXED</u>	<u>DYNAMIC</u>
• PRINCIPLES	• EVOLVING ART
• PROCEDURES	• RELATIONSHIPS
• PRECEPTS	
<u>MOI</u>	
• INCULCATION	
<u>PRACTICE</u>	

Model B asks not only what are the facts of the situation, but also, how do they fit together? It's the latter that's important to understand.

Everything taught in a school under this model would be taught with an awareness that whatever the faculty is working with now is going to change. Surely by the time the student puts it to practice, he will be dealing with some other set of circumstances, some new relationships. Now we give a lot of lip service you know to the mission, the enemy and the terrain, the METT, and all the rest of the business. We say constantly that "it depends on the situation," etc. But Model B eludes us.

Under Model B what the school concerns itself with is not methods of instruction, not MOI, but methods of learning—MOL:

MODEL A	MODEL B
<u>FIXED</u>	<u>DYNAMIC</u>
• PRINCIPLES	• EVOLVING ART
• PROCEDURES	• RELATIONSHIPS
• PRECEPTS	
<u>MOI</u>	<u>MOL</u>
• INCULCATION	
<u>PRACTICE</u>	

How in the world do you come to grips with those dynamics? How do you learn those relationships? What is it that one does while you have the student in hand to permit him to acquire a grasp of those dynamics, and an ability to deal with the relationships? How is it that you permit him to practice, as General DePuy puts it, the critical performances? Those are tough questions, and I cannot presume to put before you today any final answers. I would suggest though that rather than the operation of a faculty priesthood, handing down precepts, we must be talking about a learning process that involves some element or other of discovery by the learner:

MODEL A	MODEL B
<u>FIXED</u>	<u>DYNAMIC</u>
• PRINCIPLES	• EVOLVING ART
• PROCEDURES	• RELATIONSHIPS
• PRECEPTS	
<u>MOI</u>	<u>MOL</u>
• INCULCATION	• DISCOVERY
<u>PRACTICE</u>	

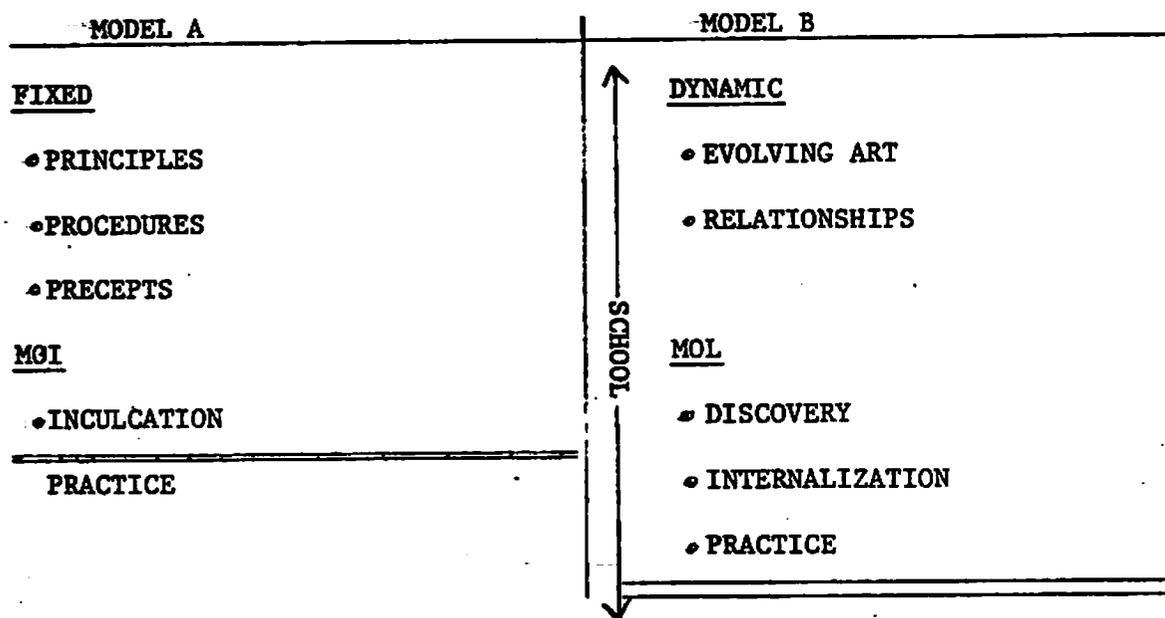
I mean that the individual student comes to an understanding in a way that persuades him that, "hey, I thought of that myself." What we want as the end product is not inculcation, but internalization.

MODEL A	MODEL B
<u>FIXED</u>	<u>DYNAMIC</u>
• PRINCIPLES	• EVOLVING ART
• PROCEDURES	• RELATIONSHIPS
• PRECEPTS	
<u>MOI</u>	<u>MOL</u>
• INCULCATION	• DISCOVERY
<u>PRACTICE</u>	• INTERNALIZATION

We would want the student to take his understanding unto himself, believe it; be able to express it, be able to defend it, be able to take it from the school not as something that was handed to him, but something that he developed and believed in deeply and implicitly; it's part of him! That may mean that Student One will look, perform, act, somewhat differently from Student Two. That may be just right, because the process of internalization is bound to be a product of personality, background, etc. Model B methods of learning then foreshadow some rather different ways of putting the school together, and rather different ways of managing the students while they are in training. But it is very clear, just by having said that, that the school is intrinsically interested in professional practice—what goes on after the student leaves the school.

MODEL A	MODEL B
<u>FIXED</u>	<u>DYNAMIC</u>
• PRINCIPLES	• EVOLVING ART
• PROCEDURES	• RELATIONSHIPS
• PRECEPTS	
<u>MOI</u>	<u>MOL</u>
• INCULCATION	• DISCOVERY
<u>PRACTICE</u>	• INTERNALIZATION
	• PRACTICE

The bottom line is not there (under internalization). No, in fact, the bottom line in this sort of an undertaking is when the man leaves the service, or when the man leaves the infantry, or the engineers or whatever. General Latham ought to be "Mr. Blue" for the United States Army. The Commandant of the Infantry School ought to be concerned with the learning and the practice of infantry soldiers from the time they assume that identity until the time that they set it aside, whether we are talking about enlisted soldiers, noncommissioned officers or officers. If this model were put into action then, "school" would reach outside these walls:



The Infantry School would really reach, extend systematically, over the entire time that any soldier enjoys the status of Infantry. Again, I said I was going to paint extremes. There isn't any school in our system that is that way. Every school is a mix of one or another of these models. My contention is, my thought for this little get together is, that to the degree we approach this (Model B), to that degree we are matching what we are doing in the schools to the realities of the military profession today. To the degree we approach this (Model B), we are preparing for the first battle of the next war.

That's pretty easy to say, and at this juncture you can legitimately ask, "How do you get to Model B from here?" Before we do that, let's write down some of the words that would describe the ideal student that we are looking for in the school Model B:

ATTENTIVE MODEL A

RESPONSIVE

ADEPT

STUDIOUS

PROCESS

ACHIEVES MODEL B

PERFORMS

ADAPTIVE

QUESTING

SELF-PACED

Not adept, gentlemen, but adaptive--meaning not facile at absorbing a bunch of preset propositions, but capable of grasping a given set of relationships, and making do with the weapons, the events, the circumstances in which he finds himself. Less studious, certainly, then questing, because we are dealing with change. We want a student that is continually asking "why?" probing as a part of that process of internalization. Because we want the student to internalize, you would expect a high degree of self-pacing. I don't mean that in the way we talk about so-called self-paced and individualized programs of instruction; I mean here more that the man is motivated and moves himself through a learning experience at the pace at which he can absorb it. If the school provides the wherewithal for all to move as rapidly as each can, challenging the bright, coping satisfactorily with the slow, keeping both occupied, then the school approaches Model B. And because we're concerned with practice, of course, it's not the process that we're interested in, but the product in practice.

ATTENTIVE MODEL A

RESPONSIVE

ADEPT

STUDIOUS

PROCESS

ACHIEVES MODEL B

PERFORMS

ADAPTIVE PRACTICE

QUESTING

SELF-PACED

Again, those are rather easy to put on the board, exquisitely difficult to achieve in reality. Is it possible for us to get to Model B from here? The answer I would give is "yes." If we will focus in the instructional design bearing on this question,

HOW TO LEARN?

DISCOVERY

INTERNALIZATION

ADAPTATION

PERFORMANCE

and look for ways to bring these about, I am persuaded--based on my own limited experience with such matters, based on what I've observed with others who have attacked the same problem, that indeed you can create a school that is going to serve the military profession well in the late 20th Century.

Who? Infantry School? Yes, the Infantry School has been doing a lot of work in this area. Has indeed led the Army! I have been doing some kind of low order experimentation lately among ancient generals. I've been sitting around a lot of nights recently with senior members of the U.S. Army, asking questions like, "Think back on your time in the service schools, what do you remember?" Now there is, of course, a stratum of fellows whose response to that goes well beyond my capability for mimic. But I want to tell you that it's amazing the number who will cite to you as one of the great experiences that they underwent, your leader reaction course, where you take the wheelbarrow over the ditch with the rope and the ladder that's too short, or something or other. They remember that!

LEADER REACTION COURSE

RANGER TRAINING

TEC I, II

CATTS I

TEWT

MOUNTED TEWT (CVS)

ENGAGEMENT SIMULATION

SCOPES

REALTRAIN

DECISION GAMES

CATTS II

LONGTHRUST 75

EIB, SQT

ARTEP

I tell you also that your experience with TEC I' and II is going to go down as something of a departure in Army training. I'm hesitant to bugle that because of my own identification with the program, but I want to tell you right now that General Haldane down in Fifth Division is persuaded that TEC is the only answer for a division commander in his circumstances. He wrote General DePuy that he could not have gotten his newly activated tank program through tank gunnery without the TEC program. It is the TEC program that in fact taught tank gunnery to that battalion. He did not have the NCOs or the officers in sufficient density and with sufficient experience to communicate effectively to the unit. They used the TEC, and they performed very satisfactorily. Haldane is now completely sold on it. From all sides we are getting guys coming forward and saying, "Hey, this stuff works." Example, General Glenn Otis up at Training Center, Fort Knox is now becoming a great fan of TEC because he discovers that when he puts TEC in the hands of a drill sergeant in the company, the drill sergeant in the company can teach, teach effectively, and can teach more effectively than the so-called committee instructor. The drill sergeant that knows the guy, equipped with TEC, can get more learning achieved than the very polished committee fellow that's out there with the beautiful MOI and all the rest of it.

They do it at night, and they do it in a very unstructured kind of a learning environment. I've got a picture around the office these days that shows a couple of recruits, sitting on the floor, no chairs, just sitting on the floor with an up-ended ash can with a TEC projector up on top of it, staring at a TEC lesson with the drill sergeant standing by showing them something about the M-16 that they're learning as they go through it. You, the Infantry School, were communicating from atop that barrel. You're setting standards, and you're doing it in a very different way than the traditional way of the Army doing it.

You fellows started CATTS I. CATTS I is exactly the kind of a learning experience that I'm referring to, and it was started in response to a preception of need in a battle situation in Vietnam. CATTS I moved in the right direction. I've been present, of course, when the Commandant of the Artillery School and the Commandant of the Air Defense School, and some other presumed experts, damned it. What I want to tell you is

that whatever it teaches, it's the right way to teach. It may be the wrong answer to the first question we posed, "what to teach?", but it sure is the right answer to the question "how to learn?"

You gentlemen revived the art of the TEWT in the United States Army. Very important! I was over in Europe just within the past month. I talked with both corps commanders. They understand, those corps commanders, that one of the critical skills that all officers should have is the ability to get out on a hill and analyze terrain; to fit weapons to terrain, and to do so with a wide variety of terrain. Moreover, he should be able to deal with a group of subordinates who are doing the same thing, and organize on the terrain a kind of command group reconnaissance or commander's school. A tactical exercise without troops is probably the fundamental way that USAREUR will be training in the years to come, precisely because REFORGER-like exercises, WINTER SHIELDS, LONGTHRUSTS, are becoming more and more remote a possibility in terms of cost, maneuver rights, etc. General Desobry, about to leave command in V Corps, was particularly vocal on this point. He said, in effect, whatever you are doing back there in that school system, teach them how to go out with a map on the hill and lay in a delay position, and do it again and again. Teach them that. Send them to Europe with that ability. Well, you gentlemen have been doing that. Moreover, to my knowledge, you are the only fellows in the school system that are keeping alive the art of the mounted, tactical exercise without troops. There was a day when virtually all of the instruction in the Army service schools was conducted on horseback. At the Army War College in the 30's the way you went to class is you got on a horse with your musette bag over your shoulder with your class materials in it, and you rode off to reconnoiter the battlefields of Gettysburg or whatever. When you read back into Leavenworth, the era of Morrison and George Marshall, you discover that most of the instruction was out on the terrain on horseback. Bell, the great Commandant of Leavenworth, for whom the Hall is named, is reputed to have spent over half of his time out on the hill with student groups conducting what we would refer to here today at the Infantry School, presumably, as a tactical exercise without troops. They said tactical ride or staff ride in those days, but it was a mounted tactical exercise without troops. Why mounted? You cover more ground, and you're doing it in something like the decisional time that you would have to perform reconnaissance in the actual event. And that kind of thing is sort of professional hardcore. You may recall, those of you who were back here when the CVS, the bathtub on wheels, was introduced, that there was a great deal of opposition at the Armor School, commanded at that time by somebody named Desobry. Well, General Desobry called me at USAREUR Headquarters the day I left and said that one of the other things he wanted to do is get back those little hunting vehicles that TRADOC had over there a few years ago. USAREUR needs a vehicle

with a low ground signature to permit getting out to perform the reconnaissance and learning the ground in something like real time. Jeeps and APCs are not the answer. Bring them back. The Owl of Minerva flies at dusk.

Engagement simulation: again, you gentlemen seized the SCOPES exercise, and you put that to work. SCOPES is situational learning, and it's dynamic learning. It teaches the dynamics of the battlefield. We are simulating weapons. We are teaching kids how to get the belt buckle back into Infantry training. Let me share two visualizations of SCOPES. One, a major general, highly placed, visited me at Carson. We went out to watch an exercise. This was one of the early versions of SCOPES and REALTRAIN. We stood on a hill. I described what was going on, and there was in view a tank platoon in a delay position; the company was spread with one platoon forward and two laying back. We stood there for about 15 minutes. Finally the major general turned to me and said, "What the hell is going on?" I said, "There's an attack underway." He says, "Well, nothing's happening." I said, "Well, Sir, believe me there is." I had the radio on, and I could hear what was going on inside of the platoon. The attacking platoon was doing, to the degree tanks can, a creep and crawl attack. The leader was inching forward with a lead section to get it into an overwatch position, so that he could cross a large open area. Then this General proceeded to deliver to me a long lecture on how armor training was supposed to be conducted, and how we were doing it all wrong. He held we were going to sap the aggressiveness and the energy of armor. I'm sure that I would have gotten a very comparable sort of dissertation from an Israeli Armor General in September of 1973, but not in November. By contrast, your old friend General Ace Collins watched a comparable exercise at Wildflecken, in the late summer of 1974. General Collins recently participated with Colonel Frank Hart in a workshop for the California National Guard. Frank, I guess, described Engagement Simulation (REALTRAIN) to the Guard, and suggested that maybe that's a training technique that they ought to associate with. Then Ace got up and described the exercise that he had watched at Wildflecken in which Colonel Bobby Schweitzer had one of his best tank companies wiped out going up against five TOWs. General Collins said, "You know, it was great training. You looked out over that battlefield and you wouldn't see anything. It was just like real combat. You couldn't see anything, except every now and then, a tank would expose itself and wap--it would get knocked off." He said, "That, gentlemen, is realism in training." Well, without belaboring the point I suggest to you that REALTRAIN as a training technique goes toward the Model B that we were just discussing: people are experiencing, they have an opportunity to make mistakes, to discover what works and what doesn't. They are penalized if they do it wrong; they are rewarded if they do it

right. In the post operation critiques they've got something to argue about. Now, I could draw a line across there--

LEADER REACTION COURSE

RANGER TRAINING

TEC I, II

CATTS I

TEWT

MOUNTED TEWT (CVS)

ENGAGEMENT SIMULATION

SCOPES

REALTRAIN

DECISION GAMES

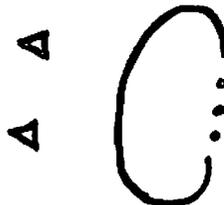
CATTS II

LONGTHRUST 75

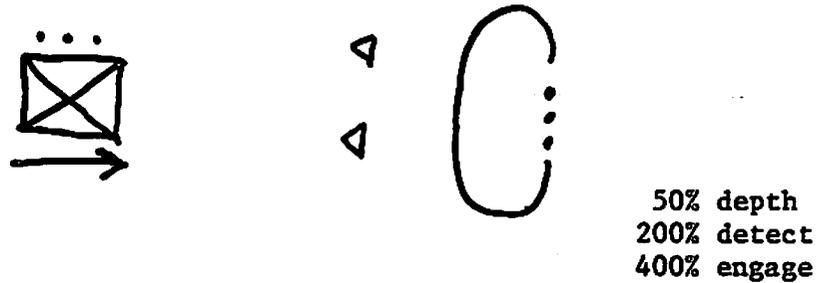
EIB, SQT

ARTEP

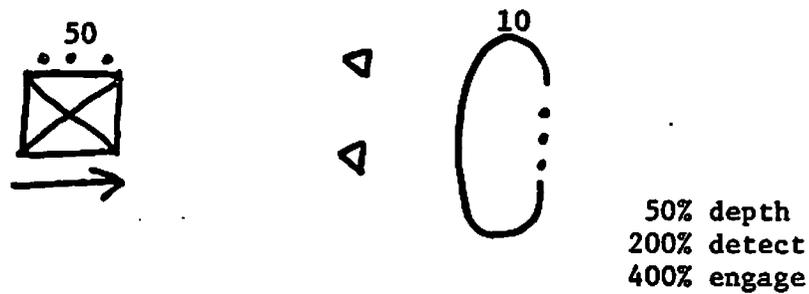
because up to now I've been patting you on the back for all the great things that you've been doing. I'm not certain how far along you are with REALTRAIN. I suggest to you that you ought to get aboard that training technique in a hurry because it has a great deal to offer the Infantry. I don't know whether you've looked at any of the statistics from the June 75 Berlin Command validation. Basically you had a situation like this: a platoon defending and, of course, putting out local security, and you had a platoon attacking:



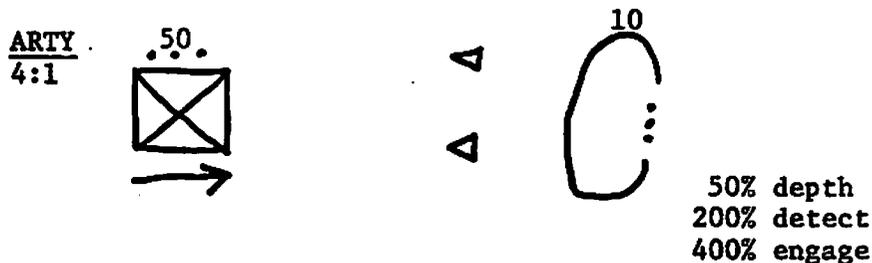
What we discovered was that units that had been trained with REALTRAIN put defense in with 50 percent more depth than conventionally trained units of the Berlin Brigade. They detected the advance of the enemy at something like 200 percent greater range, and they engaged the enemy at 400 percent greater range than the conventionally trained troops:



Literally, in one instance, a REALTRAIN outfit, an outfit that had been trained with REALTRAIN, consisting of 10 men, beat off an attack of a force consisting of 50 men:



Five to one odds. Did it convincingly! Did it decisively! Did it, gentlemen, using combined arms! What creamed this attack was artillery as much as infantry. The defenders began to understand in the process of this training that the best use of infantry weapons is to hold the attacker where the mortars and artillery were falling. In fact, for every round of indirect fire, the REALTRAIN people got four times the casualties that the conventionally trained guys did:



There's still a lot to be done with REALTRAIN technique. It is admittedly experimental at the moment. It has not been taken up by our service schools. It has not been used intensively in a rigorous curriculum. There's a lot that can be done to improve it. We've got to bring in mines more extensively. We've got to be able to link the mines with the TOW and DRAGON. We've

got to be able to play out the kinds of games or situations that we used to refer to in the force oriented defense (of sainted memory), ambush like situations. We've got to be able to build that capability into it. It's not there now, but it could be put in. And what I'm telling you, based on what we've seen thus far, REALTRAIN fosters learning. It teaches admirably, and it teaches exactly the sort of things that we need to communicate to our fellows in order to equip them for this battle dynamic. And the beauty of the training technique is that by simply changing the simulation or adding to it, one accommodates new weapons systems, so that we have an updateable training technique. And we have one which fits unit training molds and models. You get the young soldier directly involved. He learns a training technique that he can readily apply in his own unit.

LEADER REACTION COURSE

RANGER TRAINING

TEC I, II

CATTS I

TEWT

MOUNTED TEWT (CVS)

ENGAGEMENT SIMULATION

SCOPES

REALTRAIN

DECISION GAMES

CATTS II

LONGTHRUST 75

EIB, SQT

ARTEP

Now there is a range of other areas that I suggest you might go into. The Harvard Business School, Stanford University, virtually anyone else that is in the business of training to teach decision makers, managers or high-level executives, have gone to gaming or simulation as an instructional technique. Gaming is an approach to internalization, to self-motivation. I suggest that the service schools ought to be going in that same direction.

CATTS II, a machine, a digital computer game, built in response to a TDR from the Infantry School, is one approach to gaming. Maybe it's a faltering approach, a poor approach, an impoverished approach, the natural product of neglect. We just haven't put the talent on CATTS II that would have enabled the device to prosper, but I think those of you who have been watching the trials down the hall are probably concluding that whatever its other disadvantages, it sort of sells itself to the participants. They are learning. And most that I have talked to or have heard from concerning it are now saying, "Hey, boy, that's got potential."

We also have some board games: LONGTHRUST 75 is an example of one. This is the board game that has been built with CATB and your guys. You ought to understand that the board game is essentially a device to assist controller decisions. CATTS II is a digitally based simulator. LONGTHRUST 75 is an analog computer. The board is a computer. It's just a way of playing out weapons effects, so that the controller is addressing the dynamics of the battle, and it permits operating a decision game without a prefixed scenario, so that the game is genuinely responsive to the free choice of the participants. It's an unfettered learning environment, which again goes towards Model B.

Now, finally I've listed some familiar acronyms, Expert Infantry Badge, the SQT and the ARTEP.

LEADER REACTION COURSE

RANGER TRAINING

TEC I, II

CATTS I

TEWT

MOUNTED TEWT (CVS)

ENGAGEMENT SIMULATION

SCOPES

REALTRAIN

DECISION GAMES

CATTS II

LONGTHRUST 75

EIB, SQT

ARTEP

I put those down there because I suggest to you that they are all instruments that could figure in institutional training in this school. They could work toward Model B that I have been discussing, but do not, do not as yet. They haven't been brought into the curriculum of this school. If we could, conceivably they would permit us to get toward the right

way to learn as effectively as some of these other techniques. And indeed, in the interest of equipping the student both explicitly and implicitly with the wherewithal to go forth in the Army and practice his profession, it's pretty crucial that the school itself, this school itself, be conducting training built around the EIB. If you expect EIB training to occur in the infantry units, it ought to occur here, because thereby the school sets the standards for the units. If EIB or ARTEP is going to become a reality of the Army, it's got to become a reality here. And above all, if our notion of setting up the critical tasks for individual or collective training, and pursuing mastery of these as a sort of prime focus of what the unit does, if that's what we want to have happen in the U.S. Army, it's got to govern here as a matter of first instance. Or else it won't very likely occur readily out there in the units.

Now, I end on this note:

HOW TO LEARN?

DISCOVERY

INTERNALIZATION

ADAPTATION

PERFORMANCE

I see great opportunities for the Infantry School if at this juncture it will rethink some of the propositions that it has brought in the past to instructional systems design. If it will concern itself more with how to learn than with some of the other considerations that we have labored with here in the past. Of course, I stand before you a convicted sinner because you're all today groaning under the product of the crimes I committed when I sat in General Mueller's seat. So, I share with you, perhaps in a more vivid and acute way, a sense of the opportunity that lies before you, and I would like to join with you in a venture to move this school in the direction of Model B.