

A Pre and Post Testing Plan
for
Wisconsin Crisis Intervention Team (CIT) Training

Submitted by

Dr. Thomas P. Luzinski, Ph.D.
NAMI Ozaukee

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Curriculum Map
Alignment of Goals of the Memphis Model of CIT
to the Goals of Wisconsin Crisis Intervention Training

The “Memphis Model” Goals

- 1. Improve Officer and Consumer Safety**
 - a. Immediacy of Response
 - b. In-Depth Training
 - c. Team Approach
 - d. Change Police Procedures

- 2. Redirect Consumers from Judicial System**
 - a. Health Care System
 - b. Single Source of Entry
 - c. No Clinical Barriers
 - d. Minimal Officer Turnaround Time

The Goals of Wisconsin Crisis Intervention Training
(Taken and revised from Appleton PD CIT Model 2015)

1. To reduce the risk of injuries to mental health ‘consumers,’ the public and law enforcement officers.
2. To reduce the number of repeat enforcement or investigative oriented contacts with mental health ‘consumers’ in need of help.
3. To reduce the criminalization as the only outcome for those persons with mental illness; those of whom in need of help and come into contact with law enforcement officers performing investigative duties.
4. To enhance the working relationships of law enforcement officers with mental health care providers in their mutual capacity of dealing with ‘consumers’ in need of help.
5. To increase involvement of the families and friends of the mental health consumers.
6. To reduce civil commitments through diversion of the ‘consumers’ to less restrictive settings such as is the outcome of incarceration.
7. To reduce the costs of overall services through better utilization of said services and diversion to less costly services.

**Figure 1: Goals of the “Memphis Model”
and the Wisconsin CIT Training Model**

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1. Improve Officer and Consumer Safety
a. Immediacy of Response
b. In-Depth Training
c. Team Approach
d. Change Police Procedures
2. Redirect Consumers from Judicial System
a. Health Care System
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This Concept Map identifies the “Memphis Model’s” stated (above table) program goals for CIT Training. It also depicts the Wisconsin CIT Training Program Goals to the right. The vertical integration of program goal to program goal is accentuated by the arrows vectoring hierarchically from the ‘Memphis Model’ and embedding themselves into the Wisconsin CIT model. This concept map depicts how and where the Wisconsin Model has integrated the ‘Memphis Model’ into its CIT training and thus maintains affinity with the ‘Memphis Model.’

Pre and Post-Testing

Pre and Post- Testing, is measurement of the learning received during the class as a result of comparing what the student knew before in a pre-test and after the class experience in a post-test. Why use it? To quantify the knowledge attained in the class from a group of students with diverse learning styles and educational backgrounds. More specifically, the tests indicate how the students are learning in the course. The data can be used also to target what the students need in terms of extra concentration during the program identify teaching and learning methods that need to be changed or developed. Reasons for using a pre-test:

- To measure a base level or the amount of pre-existing knowledge on the course topic and then to compare that knowledge end level with a post-test
- To inform the instructor about topics that are/are not needed to cover in the course based on student's previous knowledge
- To indicate to the student the learning level they have of the course topic
- To analyze the appropriateness of the learning objectives
- To recognize students who need additional help
- To target any instructional needs to improve the course

The Wisconsin CIT initiative has developed a pre- and post-test instrument to be used to measure knowledge gained from participating in a training course. This instrument is a True/False examination to be given at the beginning of the program and at the end. The test will be the same on both occasions. The difference in test scores (presumed to be better at the end) will serve for the time being as a measurement or assessment of learning to be used for internal program evaluation and program change purposes.

The pre-test is a set of questions given to participants before the training begins in order to determine their knowledge level of the course content. After the completion of the course, participants are given a post-test to answer the same set of questions, or a set of questions of comparable difficulty. Comparing participants' post-test scores to their pre-test scores enables you to see whether the training was successful in increasing participant knowledge of the training content.

Pre- and post-test scores provide information on whether or not participants have learned from the training. In addition, a well-designed pre- and posttest can help trainers understand which concepts or competencies were well taught during the training and which ones need additional time, or need to be covered using alternative methods.

Pre- and post-tests may not be the best tools to use for every training. It can be argued that pre and post-tests measure the students' ability to learn from the first test; hence, validity is an

issue. Or, for example, if a course is highly interactive (such as CIT can be) with ample opportunity to assess participants' knowledge and comfort with the training content, then pre- and post-tests may not be worth the time to administer and analyze. This is something the CIT initiative in the State of Wisconsin should consider, in time.

Also, it should be noted that very short courses, lasting a day or so, may not merit the time requirements of administering and analyzing pre- and post-test data. In addition, pre- and post-tests for trainings focused on relationship-building skills, e.g., training on effective crisis intervention skills, may be difficult to create and score. An alternate method of evaluating learning, such as the observation of skills demonstrated in a role play, might be more appropriate in this situation. When deciding whether or not to take the time to do both a pre- and a post-test, consider first what you most want to learn about your training.

If one wants to understand exactly what knowledge can be credited to the training itself, using a pre- and post-test methodology is important. If, instead, you only need to know whether participants can demonstrate content knowledge or skills by the end of the training, a pre-test is not necessary. By administering a test only at the end of training, you will not be able to show knowledge gains, but you will be able to assess the extent to which participants understand the course material. Remember, one of the limitations of any test of knowledge administered immediately after training is that it will not tell you what people will remember one week or one year after the training, or whether they will apply what they learned in their work.

Developing a Pre- and Post-Test

Any test(s) are instruments or tools used to measure change. If the instrument itself is faulty, it cannot accurately measure changes in knowledge. A valid and reliable pre- and post-test must be made up of well-written and clear questions.

The following are the process by the Wisconsin CIT initiative for creating good questions:

1. Pre and post-test questions were ultimately created that focused on the primary program goals. Program learning goals were derived first.
 - a. To do this a curriculum map was created that "vertically integrated the program goals of the Wisconsin CIT initiative to the "Memphis Model" of CIT Training.
 - b. See Figure 1 above.
 - c. In which case the goals of the Wisconsin CIT initiative being subordinate were matched to the "Memphis Model" best practices model.
2. Next, the actual courses used by the Wisconsin CIT initiative were plotted to the program goals of the "Memphis Model" (through the conduits established in Point 1 above) to construct and complete the one to one congruence between "Memphis Model" program goals and Wisconsin CIT initiative CIT courses.

- a. This insures Wisconsin CIT affinity with the “Memphis Model.”
3. Once congruence between the Wisconsin CIT initiative courses was achieved with the “Memphis Model” best practices model, overarching and mutual themes or ‘learning goals’ were derived to guide in the creation of test questions that could serve as our initial test question bank.
4. Hence, five Program Learning Goals for the Wisconsin CIT Training Program were identified:
 - i. Knowledge Acquisition
 - ii. Effective Communication
 - iii. Critical Thinking
 - iv. Global Perspective
 - v. Professionally Responsible Action
5. Once program goals were identified, two measurable learning objectives for each were derived for each goal.
6. Next, the congruence between the Wisconsin CIT program was consummated and depicted by correlating Wisconsin CIT to the five the learning goals and objectives of the program. Those are depicted below:



Vertical Integration of Wisconsin CIT Training and the Program Learning Goals

The Goals of Wisconsin CIT Training (Taken and revised from Appleton PD CIT Model 2015)
1. To reduce the risk of injuries to mental health 'consumers,' the public and law enforcement officers.
2. To reduce the number of repeat enforcement or investigative oriented contacts with mental health 'consumers' in need of help.
3. To reduce the criminalization as the only outcome for those persons with mental illness; those of whom in need of help and come into contact with law enforcement officers performing investigative duties.
4. To enhance the working relationships of law enforcement officers with mental health care providers in their mutual capacity of dealing with 'consumers' in need of help.
5. To increase involvement of the families and friends of the mental health consumers.
6. To reduce civil commitments through diversion of the 'consumers' to less restrictive settings such as is the outcome of incarceration.
7. To reduce the costs of overall services through better utilization of said services and diversion to less costly services.

<p>Knowledge Acquisition <i>Objectives:</i></p> <ol style="list-style-type: none"> 1. There is measurable evidence the student has acquired knowledge of and accepts the physiological or medical model of mental illness. 2. There is measurable evidence the student recognizes the signs and symptoms of mental illness when they observe them it.
<p>Effective Communication <i>Objectives:</i></p> <ol style="list-style-type: none"> 1. There is measurable evidence that the student understands that there is much peer and professional help concerning the mentally ill in the community and available to law enforcers—and, is able to more effectively deal with the mentally ill by seeking this assistance and then enlisting it in a team fashion. 2. There is measurable evidence the student will now communicate and otherwise collaborate with non-enforcement oriented i.e. family, social and local health agencies as a resource in dealing with the mentally ill in their community, in a shared holistic and humane solution.
<p>Critical Thinking <i>Objectives:</i></p> <ol style="list-style-type: none"> 1. There is measurable evidence that the student now bears witness to his or her biases and attitudes toward the automatic 'criminal profiling' of the mentally ill, as this being legal; however, a functional and moral equivalent to 'racial profiling' when unnecessarily opted for. 2. There is measurable evidence the student now understands his or her role in the CJ System's trained incapacity to only 'criminalize- to-control' the mentally ill as an being an effective outcome.
<p>Global Perspective <i>Objectives:</i></p> <ol style="list-style-type: none"> 1. There is measurable evidence the student has gained a measure of empathy and/or sensitivity for mentally ill people as a very large and diverse group of 'countless-so-affected' others. 2. There is measurable evidence that the student now views the mentally ill as people who are not to be automatically profiled and treated as a criminal class-- but rather as sick people who need courteous and professional help from law enforcers and not certain incarceration when their paths cross.
<p>Professionally Responsible Action <i>Objectives:</i></p> <ol style="list-style-type: none"> 1. There is measurable evidence to which the student knows the limitations of the 'use of force continuum' model in the de-escalation of mental illness related crisis, especially when used exclusively, as this option is something that will typically lead to a negative outcome for everyone involved. 2. There is measurable evidence that the student accepts the tenets of the "Memphis Model" as a positive form of de-escalation of mental illness related crisis and—will seek this as their first problem solving option.

This Concept Map identifies where and how the Wisconsin CIT Training program embeds its goals into the CIT Training Program Learning Goals. Whereas the Wisconsin CIT Training Program has affinity with the "Memphis Model" the Wisconsin CIT Learning Goals so do its learning goals. Hence, the measureable Learning Objectives of each goal have affinity with the 'Memphis Model' also.

7. The learning goals guided the development of test questions that highlighted each CIT course. This ensures that we are asking participants to demonstrate their knowledge of what course developers determined are the most important concepts to learn across the entire program.
8. The learning goals conceptually established what the CIT student should have acquired from training after completion. Hence, given Wisconsin CIT training engenders knowledge and understanding of these matters, the pre and post-test questions need to reflect the learning themes: Those learning themes are listed below:

Pre and Post-Test Questions

In summary, we have created questions to which there were clear answers provided during the course. We intend to not test participants on concepts or knowledge that were not sufficiently covered in the course. Only important concepts we believe covered in the course are tested for.

We have developed a test that will take between 10-25 minutes to complete. Given, the amount of time spent on pre- and post-tests should vary depending on the length of the overall training course and the type of questions asked. Because open-ended essay or short-answer questions will take longer than True/False or multiple-choice tests with the same number of questions, we have opted for True/False approach for the time being.

	Pre and Post-Test Question	Linkage to Learning Goal and Objective	True or False
1	Brain chemicals are such things as drugs, alcohol and tobacco that impair the person's equilibrium and judgment. Associating mental illness with brain chemistry means that the mentally ill might have greater trouble than other people ingesting these drugs and-- it might behoove them to choose to stop.	Knowledge Acquisition Objective 1	False
2	De-escalation means getting the mentally ill person who is acting bizarrely under control ASAP. This means they get one warning and then my physical control must begin.	Professionally Responsible Action Objective 1	False
3	I am confident in my ability to recognize the signs and symptoms of mental illness in people. From my perspective it is threatening and likely dangerous. Accordingly, it is proper to adjust presence and dialogue' up the use of force continuum and to prepare for a heightened level of danger.	Critical Thinking Objective 1	False
4	I am fully trained to de-escalate a mental illness induced	Effective	False

	crisis situation. This training is best accomplished by me using the approved use of force measures. Consulting with social services or other non-police officers only slows the problem solving process for me and my backup.	Communication Objective 1	
5	I must be on-guard and anticipate a greater threat or greater danger at any moment with a mentally ill person. Therefore, using verbal commands, or perhaps even threatening greater uses of force will make my point.	Global Perspectives Objective 2	False
6	I noticed that mentally ill people seem to be obese, unkempt and slovenly. If they would have some pride in themselves, get in shape, clean and themselves up they might be in a position to manage their lives better.	Knowledge Acquisition Objective 2	False
7	In between psychotic episodes, mentally ill people are seldom capable to live relatively normal lives, working, raising children, going to church and things like that. This makes them easy to identify to law enforcement.	Global Perspectives Objective 2	False
8	In criminal profiling class, we learned that we can predict the behavior of criminals by way of deduction and other time tested police scientific technique. Accordingly, we may deduce the behavior of one mentally ill person serves as a model of behavior for all mentally ill people.	Critical Thinking Objective 2	False
9	It is appropriate to arrest the mentally ill for emergency detention to get them off the street and out of the public's eye. However, once the crisis is safely handled by law enforcement, then the problem is best dealt with by social workers, courts and others in more businesslike quiet environments.	Effective Communication Objective 2	False
10	Manic-depression has nothing to do with bipolar syndrome. Moreover, manic –depression only happens to females.	Knowledge Acquisition Objective 2	False
11	Mental illness is simply another “politically correct” mischaracterization of what is a character flaw(s), bad attitude or poor impulse control, or any combination thereof.	Global Perspectives Objective 1	False
12	Mentally ill people acting bizarrely have little interest in their own safety and a great deal of interest in creating trouble for others. Strict enforcement of their potentials for danger is essential.	Professionally Responsible Action Objective 2	False
13	Mentally ill clients should be identified to law enforcement by their social services agencies. Once	Critical Thinking Objective 1	False

	done, the mentally ill should be considered to be an elevated threat to officer safety due to the mental illness.		
14	Most people who have a mental illness had poor parenting as children.	Knowledge Acquisition Objective 1	False
15	One of the main causes of mental illness is a lack of self-discipline and will power in these people. The social service agency institution fails at accepting and dealing with this fact. As a result, the law enforcement community becomes a “social lint trap” for the continual failure of social experimentations. In turn, the social service communities blame law enforcement for using too much force.	Effective Communication Objective 2	False
16	People with mental illness are just as intelligent as those people who are not mentally ill. This means, as a law enforcement officer I can choose to calmly discuss things at a non-threatening level with a mentally ill person who is in crisis. Because they are intelligent, I can make them understand that I want them to feel safe and I am there truly to help and assist them. If done humanely, most mentally ill will understand and react positively to my messaging.	Global Perspectives Objective 1	True
17	Since the 1960s, the American Mental Health System (i.e. hospitals, doctors, and treatment) has not able to deal with the growing numbers of people who seek treatment. Accordingly, the American Criminal Justice System is now one of the few places the mentally ill can go to get help of any kind for their issues. This means a law enforcement officer, I can expect more and more of my time on patrol dealing with matters associated with mental illness. As a result, I need some help in doing this.	Professionally Responsible Action Objective 2	True
18	Social services support intervention tends to be fluffy “bleeding heart” alternatives to dealing mentally ill people concerning their bad and often times illegal behavior. The closer the law enforcement community comes to interacting with social service people, the sooner the cops will lose control and-- it is the cops who will have their police power erode.	Critical Thinking Objective 2	False
19	The best way to deal with people in a mental health crisis is to set firm limits with them and make it clear at the onset just exactly “who is in charge.”	Professionally Responsible Action Objective 1	False

20	The bizarre behaviors of the mentally ill, (i.e. screaming incoherently, flailing about, lack of an appropriate response to my authority, etc.) those of whom are in some crisis especially are dangerous. I should be prepared to escalate the use of force at a moment's notice.	Global Perspective Objective 1	False
21	The differences between psychiatry and psychology are so small that most people do not realize that a psychologist has only a short clinical internship to complete at a hospital to become a psychiatrist.	Knowledge Acquisition Objective 1	False
22	The human mind cannot create virtual "worlds" in which the mentally ill think they exist. Therefore, when dealing with the mentally ill, the sooner the law enforcement officer can get the mentally ill person "re-grounded" to normal reality the sooner that person will stop acting so silly.	Professionally Responsible Action Objective 1	False
23	When mentally ill people act bizarrely, this is always a cue for me to get ready to escalate the use of force continuum. As a matter of fact, bizarre behavior is a prelude to danger, as I have been taught in training.	Critical Thinking Objective 1	False
24	When someone has a mental illness, it is their brain that is impaired in some way and it affects their behavior and emotions. This impairment however, is not disease or biologically related in any way. It may connect to their poor impulse control in some manner.	Knowledge Acquisition Objective 2	False
25	When someone is paranoid and believes the FBI or CIA or your agency is "out to get them," it is a bad idea for me to play along with the apparently delusional individual. It is OK for me to empathize with their distress but I must discount to them I am not seeing and hearing what they are.	Professionally Responsible Action Objective 2	True

Analysis of Data

Grade records are expected to be kept by the deliverers of CIT training. Analysis of the data is expected of the results of the training.

Given, "marks" from grades are continuous (scale) data. Continuous data are often summarized by giving their average and standard deviation (SD), and the paired *t-test* (or *z test* if class size is greater than 30) is used to compare the means of the two samples (i.e. pre and post-test) of

related data. A level of significance of .05 α should be used to compare the pre and post-test data and hopefully, a statistically significant difference will derive.

The paired *t-test* compares the mean difference of the values to zero. It depends on the mean difference, the variability of the differences and the number of data. These computations can be easily done on a Microsoft Excel Spreadsheet. This method would be preferred. However, if doing *t-tests* are not favored by local deliverers of programming, it is then recommended that minimal records keeping of what is referred to as “Gain Scores” be kept of each student who participates in Wisconsin CIT training.

Gain Score

A less complex and acceptable way to measure change in pre and post – tests is called the gain score. To calculate a gain score, one must calculate a learning gain score for each individual student. When an individual student has scored higher on their post-test than they did on their pre-test (which is the common case), you must use the first formula given below to determine their individual gain score.

If and when a student scores lower on their post-test than they did on their pre-test, you must use the second formula given below to calculate their individual gain score. Once you have figured every student’s gain score, you must calculate the average gain scores for the class.

Instructions for Calculating Learning Gain Scores

One must calculate a learning gain score for each individual student. When an individual student has scored higher on their post-test than they did on their pre-test (which is the common case), you must use the first formula given below to determine their individual gain score. When a student scores lower on their post-test than they did on their pre-test, you must use the second formula given below to calculate their individual gain score. Once you have figured every student’s gain score, you must calculate the average gain scores for the class.

Formula for positive gain (i.e., when an individual student scores higher on their post-test than on their pre-test): (Post-assessment - Pre-assessment)

$$\frac{\text{-----}}{(100\% - \text{Pre-assessment})}$$

Where: Pre-assessment is the **percent correct** on pre-unit assessment
Post-assessment is the **percent correct** on the post unit assessment

Ex. for student #1 below:

$$\frac{70 - 45}{100 - 45} = \frac{25}{55} = .45$$

Student #1 demonstrated a gain of 25 percentage points out of a potential 55 percentage points that they could have gained. Thus, they gained .45 (or 45%) of the possible percentage points they could have gained from pre to post assessment.

Formula for negative gain (i.e., when an individual student scores higher on their pre-test than on the post-test):

Ex for student #2 below:

$$\frac{50 - 75}{100 - 75} = \frac{-25}{25} = -1.00$$

Student #2 could have gained up to 25 percentage points, but instead lost 25 percentage points (or 100% of what they could have gained.)

Note: student scores below are in percentage correct

<u>Student #</u>	<u>Pre Assessment Score</u>	<u>Post Assessment Score</u>	<u>Student Gain Score</u>
1	45%	70%	.45
2	75%	50%	-1.00
3	60%	80%	.50
4	40%	40%	.00
5	65%	70%	.14
6	90%	95%	.50
7	53%	59%	.13
8	60%	90%	.75
9	40%	95%	.92
10	42%	45%	.05
11	58%	88%	.71
12	24%	30%	.08
13	45%	89%	.80
Total Average Gain Score		=	.31

Or a 31% learning gain for entire class on average

In education, a gain score increase of $\geq 30\%$ per class is considered a generally fair indicator of average class improvement.

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