

Evidence Based Assessment

Efrem Milanese,
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INTRODUCTION

NETWORK

ACTORS ESTABLISHING INTERCONNECTIONS TO SHARE RESOURCES:

- PROFESSIONALS
- METHODOLOGIES AND PRACTICES
- CONCEPTS
- INSTRUMENTS
- RESULTS ETC.

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JOURNALISTIC SURVEY AND SCIENTIFIC SURVEY

Prison drug s smuggling has increased

Instances of prisoners caught with drugs have increased. Guards caught **5** prisoners inside Republika Srpska (RS) facilities in 2005. In 2006, **19** were caught in the entity's six prisons. In Tuzla, the number has grown from **2** to **9** between 2002 and 2007.

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Evidence

EVIDENCE: facts, signs or objects that make you believe that something is true. (Oxford Advanced Learner's Dictionary).

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WHAT IS ESSENTIAL IN ORDER TO SHARE IS
COMMON LANGUAGE

WHICH IS NOT MADE ONLY OF **WORDS/TERMS**
 THAT WE CAN UNDERSTAND BUT OF SOME
COMMON CONCEPTS

- **PROFESSIONALS**
- **METHODOLOGIES**
- **CONCEPTS**
- **INSTRUMENTS**
- **RESULTS ETC.**

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Assessment

ASSESS. Make a judgment about the nature or quality of sb/sth. (...) To calculate the amount or value of something.
 Synonymous: evaluation (a detailed assessment of...) (Oxford Advanced Learner's Dictionary).

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Evidence Based Assessment

EMCDDA online glossary
Evidence comprises the interpretation of empirical data derived from formal research or systematic investigations, using any type of science or social science method (Rychetnik, M et al., 2002). Depending on **how** it was obtained, evidence varies greatly in strength.

Evidence-based medicine
 Evidence-based medicine is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients (Sackett et al., 1996). The practice of evidence-based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research (Centre for Evidence-Based Medicine Oxford, United Kingdom).

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EVIDENCE BASED PRACTICES (INCLUDING ASSESSMENT) INTEGRATION BETWEEN

PERSONAL PROFESSIONAL EXPERTISE is the experiences made as a consequence of a professional training and constant professional supervision.

EXTERNAL EVIDENCES are the results of formal or systematic investigations on a specific area of work.

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Evidence Based Assessment

EVIDENCE-BASED PRACTICES

There are different definitions of evidence-based practices. At a minimum they are interventions that **show consistent evidence of being related to preferred outcomes based on best available evidence**. The American Psychology Association defines **evidence-based practices as the integration of the best available research with expertise in the context of patient characteristics, culture, and preferences** (<http://www.apa.org/practice/ebpreport.pdf>). This definition parallels with the definition of the Institute of Medicine as adapted from Sackett et al. (2000) that states: **evidence-based practice is the integration of best research evidence with clinical expertise and patient values** (EMCDDA online glossary)

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Evidence Based Assessment

**EVIDENCE BASED PRACTICES (INCLUDING ASSESSMENT)
IS THE INTEGRATION BETWEEN**

The diagram consists of three overlapping ovals. A blue oval on the left is labeled 'PERSONAL PROFESSIONAL EXPERTISE'. A blue oval on the right is labeled 'BEST EXTERNAL EVIDENCE'. A red oval at the bottom is labeled 'CLIENT VALUE'. The central area where all three ovals overlap is shaded, representing the integration of these three elements.

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EVIDENCE OF THE EFFICACY OF INTERVENTIONS

Evidence-based information on the effectiveness of interventions attempts to integrate available individual expertise (i.e. expert opinions) with the best available external evidence from **systematic research**.

Systematic research in this context aims to establish the **efficacy** of an intervention.

EFFICACY is a **measure** of how well an intervention works under ideal research conditions. Efficacy is ideally determined by carrying out **CONTROLLED TRIALS** or **RANDOMISED CONTROLLED TRIALS** (primary level research).

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EVIDENCE OF THE EFFICACY OF INTERVENTIONS

EFFECTIVENESS refers to whether the interventions are effective in "real-world" conditions or "natural" settings, (Flay B.R. et al.,2005). The term effectiveness is also used to describe whether a programme achieves its stated goals and produces measurable outcomes.

EFFICACY is the extent to which an intervention (technology, treatment, procedure, service, or programme) produces a beneficial result under ideal conditions (See also [Cochrane Collaboration](#)). Efficacy is distinguished from effectiveness. See also the definition for **effectiveness**

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Evidence of the efficacy of Interventions

In recent years, researchers have started to analyse these **TRIALS** in **reviews**, systematic reviews or meta-analyses (secondary level research), due to the increasing number of trials being published.

A **REVIEW** summarises a number of different trials and may draw conclusions about a particular intervention. Review articles are often not systematic.

SYSTEMATIC REVIEWS explicit methods to identify, select and critically appraise controlled and randomised controlled trials, and to collect and analyse the resulting data. The results are then included in the review.

Statistical methods (**meta-analyses**) may or may not be used to analyse and summarise the results of the studies under consideration.

In order to synthesise the available evidence further, researchers critically appraise relevant available **systematic reviews** and **meta-analyses**. These constitute tertiary level research (**REVIEW OF REVIEWS**), and also apply a systematic and explicit method to identify available systematic reviews and/or meta-analyses.

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Evidence of the efficacy of Interventions

Review of Reviews

SYSTEMATIC REVIEW SYSTEMATIC REVIEW

REVIEWS (tens) **REVIEWS (tens)**

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TRIALS

Characteristics	Modelli				
	Experimental double blind	Experimental	Almost experimental	Naturalistic	Ex post facto
Hypotesis	x	x	x	x	x
Independent variable	x	x	x	x	x
Dependent variable	x	x	x	x	x
Evaluation T ₀ (initial)	x	x	x	x	x
Evaluation T ₁ (final)	x	x	x	x	
Evaluation T ₂ (follow up)	x	x			
Experience group			x	x	x
Non experience group			x		x
Experimental group	x	x			
Coupled group	x		x		
Control Group	x	x			
I.V. manipulation	x	x	x	x	
Evaluators and experimentators are different	x				

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TRIALS

Double-blind experiment - an experimental procedure in which neither the subjects of the experiment nor the persons administering the experiment know the critical aspects of the experiment; "a double-blind procedure is used to guard against both **experimenter bias** and **placebo effects**

Double-blind describes an especially stringent way of conducting an **experiment**, usually on living, conscious, human subjects. A **blind** experiment is designed so that individuals do not know whether they are so-called "test" subjects or members of an "**experimental control**" group.

In a double-blind experiment, neither the individuals nor the researchers know who belongs to the control group. Only after all the data are recorded (and in some cases, analyzed) may researchers be permitted to learn which individuals are which. Performing an experiment in double-blind fashion is a way to lessen the influence of prejudices and unintentional physical cues on the results.

Strictly speaking, every researcher who interacts with or treats a subject should be blinded, if an experiment is to be designated "double-blind." This situation is easily arranged when the treatment being tested is a drug, the appearance of which may be simulated with a colored pill or solution (that is, a **placebo**). But with surgical procedures, for example, a surgeon inevitably knows whether it is the procedure or a sham that he or she is performing. The evaluation of such procedures can be approximately double-blind if the researchers responsible for recording subjects' responses and analyzing the data are blinded. Such a test typically is not considered "double-blind."

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EVIDENCE BASED-NON EVIDENCE BASED

NON EVIDENCE BASED. EXAMPLE.

I've implemented a drug use universal prevention process in a High School with the objective of increasing awareness of students about exclusion process and of decreasing exclusion behaviors. My intervention included

- (i) an information and motivation session with parents and teachers to diminish interferences and increasing cooperation,
- (ii) five two hours participative and active workshops with students focused on increasing social skills and competencies.
- (iii) One of the product of the initiative was to organize a drug prevention day within the school.
- (iv) One final meeting with teachers, parents and representatives of students to assess the experience.

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EVIDENCE BASED-NON EVIDENCE BASED

NON EVIDENCE BASED. EXAMPLE.

EVALUATION.
My purpose is to understand what were the **RESULTS**, the products of this initiative.

If I adopt a **NON EVIDENCE BASED APPROACH** I can ask (in any form going from open interview to structured questionnaire) participants, teachers or parents for their judgment or opinion about the prevention activity. I can also set some basic criteria, for example: the quality of teachers participation etc.

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INTERVIEW

1	Can you mention three lessons learned from the prevention activity?
2	Can you rate quote from 0 to 10 the level of participation of your colleagues?
etc.	

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OPINION QUESTIONNAIRE

Please answer the statements below saying the level of agreement or disagreement using the following criteria:
-3: total disagreement,
-2: strong disagreement;
-1: low disagreement,
0: not disagreement nor agreement,
1: low agreement,
2: strong agreement;
3: total agreement.

1	Violent behaviors should be punished severely without exception	-3	-2	-1	0	1	2 3
2	Drug users should be suspended from school till they are using drugs	-3	-2	-1	0	1	2 3
3	Talking about drugs should be strongly discouraged.	-3	-2	-1	0	1	2 3
4	Students without good results should be helped to abandon the school	-3	-2	-1	0	1	2 3

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EVIDENCE BASED-NON EVIDENCE BASED

EVIDENCE BASED APPROACH.

If I'm using an **EVIDENCE BASED APPROACH** I have some actions to do before starting to ask questions.

FIRST STEP. Identify the objective of my activities.

In this case the objective is "increase awareness about exclusion and reduce exclusion behaviors".

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EVIDENCE BASED-NON EVIDENCE BASED

EVIDENCE BASED APPROACH.

FIRST STEP. Identify the objective of my activities. [participants identify one of their prevention activity and write the objectives]

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EVIDENCE BASED-NON EVIDENCE BASED

EVIDENCE BASED APPROACH.

SECOND STEP. Identify the **basic assumption** of my approach (my implicit or explicit theory).

In this case my implicit theory is that drug use is one of the possible consequences of social exclusion.

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EVIDENCE BASED-NON EVIDENCE BASED

EVIDENCE BASED APPROACH.

SECOND STEP. Identify the **basic assumption** of my approach (my implicit or explicit theory). [participants make explicit the basic assumption of their activity]

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EVIDENCE BASED-NON EVIDENCE BASED

EVIDENCE BASED APPROACH.

THIRD STEP.
Identify the hypothesis. In this case my hypothesis is:

- That if I increase the exclusion awareness I can reduce exclusion process
- That if I reduce the exclusion processes I reduce the risk of drug use.

This hypothesis is not explicit in the objectives therefore it should be made explicit. The hypothesis tells the reader what is my theory (the linkage between a phenomenon and its causes)[remember complexity].

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EVIDENCE BASED-NON EVIDENCE BASED

EVIDENCE BASED APPROACH.

THIRD STEP.
Identify the hypothesis. [participants write the main hypothesis of their activity].

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EVIDENCE BASED-NON EVIDENCE BASED

EVIDENCE BASED APPROACH.

FOURTH STEP. Check the consistency of my implicit theory within the drug prevention literature.

FIFTH STEP. Check the consistency of my hypothesis within the research literature on primary prevention.

The connection between my concepts and hypothesis and concepts and hypothesis of the scientific community working in the same field is one crucial elements of evidence based approach.

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EVIDENCE BASED-NON EVIDENCE BASED

EVIDENCE BASED APPROACH.

CONSISTENCY.

My concepts and hypothesis shall not be in contradiction with concepts or hypothesis already proved scientifically true...

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EVIDENCE BASED-NON EVIDENCE BASED

EVIDENCE BASED APPROACH.

SIXTH STEP: identify the set of activities or the operational process.

In my example I've chosen the "social skills".

Making this choice I'm also making a **theoretical choice**: I'm saying that exclusion is the consequence of the fact the individuals or groups do not have enough social skills. In this way I'm formulating also an hypothesis which is that increasing the social skills I reduce drug use of addiction as a consequence of reducing exclusion.

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EVIDENCE BASED-NON EVIDENCE BASED

EVIDENCE BASED APPROACH.

FIFTH STEP: identify the set of activities or the operational process.

In my example I've chosen the "social skills".

Therefore when I assess I'm not only trying to see what happened during my activity but also if what I think of the problem I'm dealing with (concept) is consistent or not and if the **theory** I use is valid or not.

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EVIDENCE BASED-NON EVIDENCE BASED

EVIDENCE BASED APPROACH.

SEVENTH STEP: identify the expected results or outcomes.

In my case the expected results are:

- (i) To **increase awareness** about exclusion process significantly
- (ii) To **decrease exclusion** behaviors significantly
- (iii) To **decrease drug use** significantly
- (iv) To establish that the increase in awareness is due to my activity
- (v) To establish that the reduction of exclusion process is due to the increase of awareness about exclusion attitudes or behaviors
- (vi) To establish that reduction of drug use is linked to reduction of exclusion.

SIGNIFICANTLY: statistical significance.

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EVIDENCE BASED-NON EVIDENCE BASED

EVIDENCE BASED APPROACH.

EIGHT STEP: identify operational indicators about

- Exclusion behaviors, attitudes, processes etc.
- Drug use

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EVIDENCE BASED-NON EVIDENCE BASED

EVIDENCE BASED APPROACH.

NINTH STEP: identify the tools to gather information about indicators.

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EVIDENCE BASED-NON EVIDENCE BASED

EVIDENCE BASED APPROACH.

TENTH STEP: set the design if your assessment process.

DESIGN
 A design is a plan which indicates how often, when and from whom information will be gathered during the course of an evaluation.
 Good design is essential if the results of an evaluation are to have any future use. A design with at least one experimental group and one control group is known as a control group design; a time-series design uses only one experimental group but at least three data collections; and a design which does not use a control group or time series analysis is the pre- and post- design

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EVIDENCE BASED-NON EVIDENCE BASED

EVIDENCE BASED APPROACH.

ELEVENTH STEP: set data analysis criteria and procedures.

DATA ANALYSIS
 A design is a plan which indicates how often, when and from whom information will be gathered during the course of an evaluation.
 Good design is essential if the results of an evaluation are to have any future use. A design with at least one experimental group and one control group is known as a control group design; a time-series design uses only one experimental group but at least three data collections; and a design which does not use a control group or time series analysis is the pre- and post- design

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EVIDENCE BASED-NON EVIDENCE BASED

Effectiveness
 Effectiveness refers to whether the interventions are effective in "real-world" conditions or "natural" settings. (Flay B.R. et al., 2005). The term effectiveness is used

EVIDENCE BASED APPROACH.

TWELFTH STEP: Interpretation of data.

INTERPRETATION.

- (i) Is the linkage between the results and the hypothesis, the concepts and theory.
- (ii) Is the moment to state the effectiveness of an activity.

EFFECTIVENESS
 Effectiveness refers to whether the interventions are effective in "real-world" conditions or "natural" settings, (Flay B.R. et al., 2005). The term effectiveness is also used to describe whether a programme achieves its stated goals and produces measurable outcomes.

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EVIDENCE BASED-NON EVIDENCE BASED

WHAT DO WE DO NOW?
**CAN WE USE THE FOLLOWING YEAR (STARTING FROM NOW) TO BUILD UP
AND EXPERIMENT A COMMON OR PARTIALLY COMMON TOOLS TO ASSESS
PREVENTION ACTIVITIES IN THE SCHOOL?**

IF POSSIBLE IT WILL START A PROCESS OF SHARING
TERMINOLOGIES
CONCEPTS
ACTIVITIES
HYPOTHESIS
RESULTS
Etc.

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EVIDENCE BASED-NON EVIDENCE BASED

THANK YOU

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