

**Keynote Address**  
**Seventeenth National Symposium**  
**on Doctoral Research in Social Work**  
**The Ohio State University College of Social Work**  
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**Applying Research to Making**  
**Life-Affecting**  
**Judgments and Decisions**

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Thank you, Denise Bronson, for the honor of your invitation to give this address. I am honored to address you Tony Tripodi, and your distinguished faculty; Tony—I have followed your tracks in the literature for years, as many others have. New doctorates, doctoral students, masters students and baccalaureate students, you are the future and the reason we are here. If we can help you to make better judgments and decisions in your life affecting work, then we will have had a much wider effect for good through all the lives that you will touch during your professional lifetime.

I am excited about an advance coming in the helping professions. Innovations in information technology fuel this advance. I am going to construct an argument that, in response to this advance, we need to at the least greatly modify how we teach research methods classes, possibly redesign such courses from the ground up, or add an evidence-based practice course to our curriculum. Please, as I construct this argument, examine the logic of my thinking; evaluate the practicality of what I propose, and think about what evidence you can bring to bear on my argument's validity. At the end of this address, I hope that we will have time to discuss your evaluation of my argument and its implications for how we teach research methods.

## Importance of the Research Methods Course Related to Our Mission

First, some ideas about what we value. Our mission is obvious, but it doesn't hurt to remind ourselves now and then. All we need do is ask our students. I do every semester in my Methods of Social Work Research course. In our very first class together, I ask them: how many are in social work because you want to have power over other people? They knit their brows. I ask: how many are in social work because you want to get rich? Invariably they laugh heartily. I ask: how many are in this profession because you want prestige. They wrinkle their noses. Well then, why are you in this profession? Invariably, every time, always, a member of the class says, "Because we want to help people" or something to that effect, and the others agree. So if we ever, for even a moment, doubt what we stand for, just ask social work students.

Then I underscore the incredible importance of their reasoning in practice. Last semester Annie Oftedahl worked in child protective services. Annie and her field instructor assessed whether children had been abused; they assessed risk that children would be reabused, and they made decisions about what action to take to prevent reabuse. In some tragic cases, they had to petition the court to—hopefully just temporarily—remove child from its home. I know of nothing on this earth more precious than a child and its bond with its parents, nor a decision more complex than such a risk assessment. Kayla Thiel, my fieldwork student, and her field instructor conduct adoptions investigations. The far reaching effects of such judgments and decisions are obvious. Rena Dahms, working in Eau Claire County's Community Support Program with the chronically mentally ill, made home visits last semester. She is a member of a wonderful team of professionals (social workers, psychiatrist, nurses, case aides) who make every effort to keep chronically mentally ill persons living independently in the community. But sometimes Rena and her team judged that risk of violence or suicide required hospitalization for one of their clients. You and I are acutely aware that clients are just as dead if they die in these ways as they would be if taken by some terrible malignancy, and perhaps more tragically because violence and suicide tend to take people at a younger age.

Once I have underscored our profession's mission with my research class, I slink to the door at the back of the classroom telling them on the way: "I have a secret," I check the halls, then close the door softly. "My secret is that this class is **not** mostly a class in research methods! I have gotten away with this deception for years! This class **is** entirely about making better judgments and decisions in your life-affecting work."

I tell my students that if I can help them to make better judgments (estimate of the likelihood of an event) and decisions (taking action based on a judgment), then I can affect many lives through them. I perform a calculation for them. I have taught my section of Social Work Research course for twenty five years, close to fifty times, involving thirty students per class or about fifteen hundred students. If only half of those students remain in the profession for ten years and work with just fifty new clients each year, then indirectly I will have affected decisions involving as many as three hundred seventy five thousand clients' lives—this assumes that my students will not work with the same clients.

## Forces Converging to Make Research More Accessible

Converging forces make research more accessible to our students and practitioners than ever before (Figure 1). The first of these is **Internet speed**. Presently, though the Internet's speed is impressive, we have a bottle neck. That bottle neck occurs at the juncture between our computers (relying on electricity in their chips) and the fiber optics that use light to carry information from computer to computer. We need a fast switch between the two. A solution is at hand. According to a recent article in *Scientific American* (Gibbs, 2004), this switch problem will be solved in one of three ways resulting in an "...Internet access at more than a gigabit per second—about one thousand times the present speed of DSL and cable modems."

Increasing **Internet access** will also make research more accessible to consumers of research—assuming clients know how to locate best evidence and interpret it—and access will also increase among practitioners across the helping professions. According to the Pew Internet and American Life Project (2004) broadband (high-speed DSL, cable, wireless, T-1 or fiber optic connection) Internet access in American homes has increased from 6 million in June of 2000 to 60 million in November of 2004, a tenfold increase in that interval. The Pew Report also stated that ninety-four million Americans consulted the Internet regarding some health-related matter in 2002. The impact of such access by clients/patients themselves has been suggested as a force that may encourage practitioners to keep up with current research (E. Gambrill, personal communication, April 1, 2005). If clients can access the research, why can't we? Access to the Internet has increased among professionals. A survey of members of the National Association of Social Workers revealed that ninety-seven percent of NASW members had access to the internet at work, home, or both (O'Neill, 2003, p.9). The number of physicians seeking evidence on the Internet doubled from 2001 to 2004. Seventy-one percent report searching the Internet for literature searches. (Bennett, Casebeer, Kristofco & Strasser, 2004).

If individual studies were all that was available on the Internet, practitioners would have little chance to use it. The sheer volume and varied locations of research make difficult, if not impossible, for individual practitioners to synthesize it to answer their important questions. This is why organizations have emerged to synthesize research and make these **research syntheses accessible to practitioners**, most notably the Cochrane Library, <http://www.nelh.nhs.uk/cochrane.asp> and the Campbell Collaboration, <http://www.campbellcollaboration.org/>. The former allows only free access to abstracts—the full reviews require a subscription--the latter allows free access to entire reviews. Those doing either type of review must conform to rigorous standards that can be operationally defined (e.g. computer program RevMan, <http://www.ccsims.net/RevMan/about.htm>). Some databases are entirely free (e.g. : MEDLINE <http://www.nlm.nih.gov/medlineplus/> for medical literature and ERIC <http://www.eric.ed.gov/> for education).

Finally **new search methods** can help us to access current research. Such skills include ways to pose well-built questions to guide the search, methods for planning and executing searches using terms called "methodologic filters" (Sackett, Richardson,

Rosenberg & Haynes 1997. 62), the use of Boolean logic, and knowing which terms in each bibliographic database will yield the best evidence for particular needs (McKibbin, Eady, & Marks, 1999 and my book's website <http://www.uwec.edu/Academic/curric/gibbs/evidhome.htm>).

Additionally, once effective search methods have uncovered relevant research, criteria for interpreting research as an aid to decision-making can help to make sense of it as a guide to practice (Guyatt & Rennie, 2002; Craig & Smyth, 2002, Ch. 4-7; Gibbs 2003, Ch. 5-8; and the Critical Appraisal Skills Program (CASP), <http://www.phru.nhs.uk/casp/casp.htm>). We need to consider new indices, such as number needed to treat (Gibbs, 2003, pp. 166-169) as a way to interpret treatment impact for our clients and indices such as positive predictive value (Gibbs, 2003, pp. 207-210) to help clients to better understand risk.

## **Evidence-Based Practice**

### **Spirit of Evidence-Based Practice**

First and foremost must be the spirit of evidence-based practice. The spirit of evidence-based practice rests firmly on our dedication to serving our clients first over our own needs for power, money, prestige or anything else. Precisely because evidence-based practitioners care most about our clients, they will search just as hard for evidence that refutes a favored notion as they look for evidence that supports it. If we do not dedicate ourselves to this objective search for evidence, we only construct an artfully concealed lie (a list of studies that support a favored position with positive interpretations of their quality).

In fact, this dedication, this spirit of evidence-based practice, relates directly to why we have universities. Universities are the single institution in all of our society whose purpose is to seek truth, let it fall where it may, and why we teach our students to think with rigorous methodological sophistication, particularly where it comes to making decisions that involve life-affecting judgments and decisions. This quote below underscores the ideal of universities, and though it makes reference to the University of Wisconsin, its sentiment applies to any university as follows:

WHATEVER MAY BE THE LIMITATIONS WHICH TRAMMEL INQUIRY ELSEWHERE, WE BELIEVE THAT THE GREAT UNIVERSITY OF WISCONSIN SHOULD EVER ENCOURAGE THAT CONTINUAL AND FEARLESS SIFTING AND WINNOWING BY WHICH ALONE THE TRUTH CAN BE FOUND (Secretary of the Faculty, 2002)

## Conceptual Definitions

### Conceptual Definitions of Evidence-Based Practice

The term “evidence based medicine” first appeared in a series of articles published in the *Journal of the American Medical Association* regarding standards for evidence as guidelines for directing practice (Eddy, 1990; Eddy 2005). The most frequently quoted definition of the term, one developed by a team of medical educators at McMaster University in Canada who have done much to shape the movement, state the following definition of evidence-based medicine: “conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients (Sackett, Rosenberg, Gray & Haynes, 1996, pp. 71-72). This definition, when quoted out of context, has led to some confusion about the meaning of the term. Many who quote this definition, appear to assume that evidence-based practice implies essentially “...business as usual...” meaning “...relabeling the old as new...”(Gamrill, 2003, p. 13, 16).

But evidence-based practice is genuinely a new response to the information revolution and a philosophical interpretation of how to harness this revolution. Books about evidence-based medical practice define it as a process that begins with a well-built question, searching efficiently electronically for the current best evidence, critically appraising that evidence, and integrating that evidence into shared decision making with the client or patient (Sackett, Richardson, Rosenberg, & Haynes, 1997; Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000). This process is not a cookbook relying solely on evidence to make judgments and decisions, but rather evidence-based practice lies at the interface between client preferences and actions, clinical state and circumstances, research evidence, all under the umbrella of clinical expertise (Haynes, Devereaux & Guyatt, 2002).

My interpretation, when applied to social work and other members of multidisciplinary teams yields this definition of evidence-based practice:

Placing the client’s benefits first, evidence-based practitioners adopt a process of lifelong learning that involves continually posing specific questions of direct practical importance to clients, searching objectively and efficiently for the current best evidence relative to each question, and taking appropriate action guided by evidence (Gibbs, 2003, p. 6).

This definition places the client’s benefits up front ahead of any personal need for power, money, or prestige. The definition refers to the need to learn a dynamic process that will require continually updating our skills, as new technology progresses, to answer well-built questions as they arise in practice of immediate practical importance to clients. This definition also refers to the spirit of evidence-based practice that intends to serve clients first, and it refers to the need to cultivate skills to search efficiently and the need to have the courage to take action.

## Learning to Pose Well-Built Questions

Several authors say that learning how to pose well-built clinical questions may be the most difficult EBP skill to learn (Counsell, 1997; Ely, Osheroff, Ebell, Chambliss, Vinson, Stevermer, & Pifer, 2002; Richardson, Wilson, Nishikawa, & Hayward, 1995). The grid in Table 1 lists question types vertically on the left and criteria for a specific well-built question across the top. I hope that these questions will further define conceptually what evidence-based practice implies in its first step.

<b>Across: Four Elements in a Well-Formulated Question</b>	<b>Client Type and Problem</b>	<b>What You Might Do</b>	<b>Alternate Course of Action</b>	<b>What You Want to Accomplish</b>
<b>Down: Five Question Types</b>	<i>How would I describe a group of clients of similar type?</i>	<i>Apply a treatment, act to prevent a problem, survey or interview clients, measure to assess a problem, screen to assess risk.</i>	<i>What is the main alternative other than in the box to the left, if any?</i>	<i>Outcome of treatment or prevention, accurate description of client, valid measure, accurate risk assessment.</i>
<b>Effectiveness Question Example:</b>	If disoriented aged persons who reside in a nursing home	are given reality orientation therapy	or validation therapy	which will result in better orientation to time, place, and person?
<b>Prevention Question Example:</b>	If sexually active high school students at high risk for pregnancy	are exposed to Baby-Think-It Over	or to lecture material on proper use of birth control	will the former have fewer pregnancies during an academic year?

<b>Description Question - Quantitative Example:</b>	If family members of patients with chronic mental illness, who attend a hospital support group	are given a short client satisfaction questionnaire	_____	which will the family members list as their areas of greatest and least satisfaction?
<b>Descriptive Question (Qualitative) Example:</b>	If elderly persons who experience a stroke	are interviewed in depth	_____	what is the experience for them like emotionally and practically?
<b>Assessment Question Example</b>	If aged residents of a nursing home who may be depressed or have dementia	are administered depression screening tests	or a short mental status examination	which measure will be the briefest, most inexpensive, valid, and reliable screening test to discriminate between depression and dementia?
<b>Risk/ Prognosis Question Example:</b>	If crisis line callers to a battered women's shelter	are administered a risk assessment scale by telephone	or are assessed by practical judgment unaided by a risk assessment scale	will the risk assessment scale have higher reliability and predictive validity?

Adapted by Stephanie Baus of Tulane University from Gibbs, L. (2003). *Evidence-based practice for the helping professions: A practical guide with integrated multimedia*. Pacific Grove California: Brooks/Cole—Thomson Learning.

## **An Operational Definition of Evidence-Based Practice**

All but the first step listed below are ones listed and defined in detail in texts on evidence-based medicine Sackett et al., 1997, 2000)

- ◆ Become Motivated to Apply EBP (a step I have added to motivate my students)

- ◆ Step 1—Convert information need (prevention, assessment, treatment, risk) into an answerable question.
- ◆ Step 2—Track down the best evidence to answer the question.
- ◆ Step 3—Critically appraise the evidence for its validity (closeness to the truth) impact (size of the effect) and applicability (usefulness in our practice).
- ◆ Step 4—Integrate critical appraisal with our practice experience, client's strengths, values circumstances.
- ◆ Step 5—Evaluate effectiveness and efficiency in exercising steps 1-4 and seek ways to improve them next time.
- ◆ Step 6—Teach others to follow the same process

## **A Definition by Example**

In this electronic age, it seems appropriate, now that you are familiar with the process of evidence-based practice conceptually and operationally, to show you examples. The first example comes from my 2003 book's CD that fits within the back cover of the book. For anyone getting the CD, if you have difficulty the technical help phone number is on the CD. This CD demonstrates steps in the process of EBP, and it also utilizes a computer program to pause the video periodically prompting the user to enter whether a fallacy in practice reasoning has occurred, requesting name of that fallacy, and a definition of the fallacy before resuming the video. The user's answers are saved on a file.

The video purposefully shows a case where conventional medical practice may be at odds with current best evidence. The video also shows a tension between the forces of dogma, speculation, authority versus a relatively tactless evidence-based practice team. The case is an eighty year-old man with a history of heart attack, mild to moderate dementia, and a stenosis (narrowing of his left internal carotid artery). The surgeon wants to perform a procedure (carotid endarterectomy) that will essentially ream out the artery to prevent stroke and/or death. The team applies steps of the EBP process to discover what the chances of recovery would be with and without the surgery, relative to current best evidence, and they compute an index of treatment effect size (number needed to treat or NNT). NNT is the number of patients who would not benefit from the surgery to benefit one.

## **Definition by a Second Example**

I am going to show you a six-minute example on a CD to provide further illustration of how undergraduate students from a wide variety of majors in a freshman/sophomore course can apply the first steps of EBP. These students have had half a semester of instruction in a three credit course regarding how to pose a well-built question; search efficiently as a team, and critically appraise only evaluation studies and syntheses of studies (meta-analyses). The students in this CD were told to prepare to take a realistic final examination (see Appendix) that would involve them working as a team,

their grade to be based on how well they followed steps of EBP and whether they found the marker document.

Please note the following caution when viewing the CD: students were given two questions to answer as a team in one hour, half an hour for each question. They were asked to prepare before the examination as a group by picking a leader and someone to keep a record of their activities at each step as their work unfolded. Students in each six or seven-member team gave their permission to make the video. Students seem to have ignored the camera in their determination to do well on the examination. Please note that the video has been edited from thirty minutes to six, thus allowing cuts that may misrepresent their behavior. Students knew in advance that they would receive only evaluation questions, not questions regarding risk, description (survey), description (qualitative), nor assessment.

All three teams in the class found both marker documents (all in the Cochrane Library, Campbell Collaboration or PsycINFO). All posed a well-built question that met all four criteria for specificity, followed the process of EBP, and arrived at the same conclusion that I had when examining the marker document. If you want a copy of the CD you may contact me at [lgibbs@uwec.edu](mailto:lgibbs@uwec.edu) paying only the cost of duplication and shipping.

Essentially, this was six small experiments—all three teams found both marker documents and recorded key elements of the EBP process. A similar test for two teams in an Evidence-Based Practice course that involved seven different majors (social work, nursing, pre-medicine, health care administration, psychology, special education and public relations) also followed the process and located both marker documents for both teams for both questions.

## **Implications for How We Teach Research Methods**

Initially, I said I would construct an argument that we need to, at the least greatly modify how we teach research methods classes, possibly redesigning such courses from the ground up, or add an evidence-based practice course to our curriculum. For the purpose of argument, I will take the most extreme position, basing that argument on the idea that we need to teach baccalaureate and masters degree students to *apply* research to their practice, not *conduct* studies. I am assuming here that practitioners, who often have over one-hundred cases, do not have time to conduct studies, but they may have time to consult research to guide them by following the EBP process as outlined here. If this assumption about learning to apply research is true, then we need to redesign the way we teach research methods to BS and MS students (not overhaul them), or add an entirely new evidence-based practice course to our curriculum.

Here are arguments and counter arguments regarding the idea that we need to redesign the way we teach research methods to BSW and MSW students and/or introduce an entirely new evidence-based practice course. Unfortunately, I cannot acknowledge the names of persons in the audience who provided some of these arguments.

<b>Argument</b>	<b>Counterargument</b>
<p>Busy practitioners will not have the time to follow the EBP process in an agency.</p>	<p>In ten replications (small group final examinations described above) students have been able to answer questions in half an hour per question.</p>
<p>You are speaking today about a practice course, not a research course. An Evidence-based practice course should be taught as a practice course.</p>	<p>If we examine the evidence about what proportion of our BSW and MSW graduates go on to do studies we will find that almost none do studies; therefore, our research course should teach how to consume and apply research findings, not do research.</p>
<p>The research course as presently taught is so full of required content that we could not introduce evidence-based practice skills into it.</p>	<p>Presently, every research methods text in social work is woefully outdated. Amazingly, these texts do not include content regarding basic skills for translating research into practice (e.g. posing well-built practice questions, methodological filters, critical appraisal skills specific to different types of evidence, databases specific to question types). These texts have essentially not yet adapted to the information revolution that will only increase in its potential as an aid to practice/research integration. Such skills need to be taught.</p>
<p>Students have access to bibliographic databases, but after they graduate they will not have access to them in their agencies. Therefore, they cannot apply EBP skills to answer questions in their agencies.</p>	<p>This is absolutely true and a great obstacle presently, but we should prepare our students for the future. Presently, many agencies have e-mail and access to the Internet and some free databases. The speed and accessibility of research via the Internet will only increase with time.</p>
<p>The skills that you have demonstrated are second nature to students who grew up with computers. You have taught us nothing new. We would all go to the Internet and Google an answer ourselves.</p>	<p>It is true that students have grown up with computer skills, but the skills that I have defined and demonstrated here are not commonly understood and practiced without careful training. This is why I wrote my book.</p>

<p>Faculty members who have been trained in research methods tend to teach it in the way they were taught. They will follow force of habit and continue to do so.</p>	<p>As referenced above, Eileen Gambrill has labeled this problem—what we have been doing all along with a new name. Faculty members do not recognize how dramatically they will have to change their teaching to harness this new technology for the benefit of their students and those whom their students will serve. Faculty should read Sackett, Straus, Richardson, Rosenberg, &amp; Haynes, 2000. If they do not, our profession will fall off the back of the advance being made by other professions.</p>
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## Suggestions for Ohio State Faculty

I think you are in a wonderful position to lead in the evidence-based practice advance. You have a young and bright faculty who have demonstrated their openness to new ideas. You annually bring in the best and the brightest new doctorates to present their research. You might consider doing this cumulative sequence of research projects.

1. **Conduct a study to evaluate whether students are learning evidence-based practice skills.** Conduct a careful review of literature regarding teaching essential skills, then develop measures to evaluate those skills; test inter-rater reliability for rating each skill, and teach to learning the skills. Such skills include the following: posing well-built practice questions, determining question type accurately, determining appropriate methodologic filters specific to each question type, knowing the appropriate databases specific to each question type, knowing how to use a database thesaurus, applying appropriate Boolean Operators, knowing how to critically appraise evidence specific to each question type's best evidence, being able to compute and interpret appropriate indices for clients (number needed to treat, positive predictive value), and planning an effective strategy for involving clients in the decision-making process.
2. **Conduct a randomized trial to compare effects of students learning the skills above compared with students who take a conventional research methods course** on these variables: perceptions of the utility of research as a guide to practice, knowledge of conventional research methods concepts, knowledge of evidence based practice concepts, ability to apply evidence-based practice skills, and intent to apply research to practice.
3. **Integrate evidence-based practice skills into courses across the curriculum and conduct a pretest posttest evaluation** regarding students' use of evidence (e.g. in a policy course call an administrator in South Africa who is working on preventing HIV/AIDS infection among teenagers; have the class pose a well-built question;

search the literature; critique it; come to a conclusion; send the class' summary to the administrator, and discuss the ideas in the summary with the administrator).

4. **Conduct a comparative study** of graduates of your evidence-based curriculum versus graduates of conventional social work curriculum from another university regarding how graduates would make a decision regarding a problem posed to them. This was done years ago. Graduates of McMaster's University's Medical School were compared with graduates of the medical school at the University of Toronto, showing graduates of the former were less likely to apply a potentially harmful treatment for high blood pressure ( Shin, Haynes, & Johnston, 1993).
5. **Conduct a randomized trail of clients** served by your graduates, applying evidence-based practice skills in their work with their clients, versus graduates of conventional social work curriculum on indices of their clients' symptoms, life skills, quality of life, and other direct measures regarding client performance.

Thank you for the honor of being able to address you!

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## Appendix

### **Final Examination for Analytical Thinking About Social Issues, Honors 103, Fall 2004, University of Wisconsin—Eau Claire**

Team 1: Kristin, Mariah, Anna, Jennifer, Brad, Matt, Mark (go to HHH218)

Team 2: Todd, Nate, Brittany, Bethany, Shannon, Elizabeth, Sarah (Enter the elevator at the library; go to 2<sup>nd</sup> floor; cross the lounge area to the North; take a right at the Interactive Media Center sign; go round the desk to Room L2110)

Team 3: Marla, Christine, Brian, Jessica, Becky, Abbie (Come with me to the ITECH Room Old Library 1108 (ask at the front desk of General Access Computer Lab. OL1108 to go to the ITECH room)

**Have one person record the group's work on this sheet for all making sure all sign the examination sheet, and bring the final examination to HHH218** where I will arrive as soon as I can get there.

**Background: This examination tests your thinking and skills regarding two immensely complex social problems: how to intervene in the lives of juveniles who may be headed for delinquency and a career of crime, and how to prevent alcohol misuse in young people. You have rudimentary knowledge of how to pose and answer questions on the spot, as the need arises, to make a well-reasoned judgment and decision. Do apply the process that we have studied in class to make your recommendations. I know you are just fledglings at the process, so you will need to work as a team to accomplish your task for maximum success. Do work through the problem in sequence answering each question in turn. This examination is as real-to-life as I can make it to test your thinking. Good luck!**

(Please work as a group on just **one question at a time**. Budget your time and spend about half the time on each question. You have one hour, no more.)

Question #1 Delinquency Prevention (30 minutes only, no more)

Assume that you have taken a job as a probation-parole officer working with juvenile clients who have been adjudicated by a local juvenile court. Your supervisor at your agency has asked you for your opinion about whether juveniles, who are served by your probation-parole agency, should participate in a delinquency prevention program patterned after a the one in the popular video titled: "Scared Straight." This video shows an innovative program put on by "lifers" serving a life sentence that is intended to literally scare the delinquents straight.

1. What is your COPES question here? (Space reduced to compact the pages)
2. Please record your search plan here including terms to mark key concepts and to include appropriate MOLES.

3. Please record, if necessary on additional sheets, the most successful search histories or history for your group including the databases searched, terms applied, and numbers of hits, to locate your best document.
4. How credible is your best source relative to criteria on the appropriate evidence rating form? Please include a brief paragraph to summarize your assessment of the evidence quality.
5. What would you tell your supervisor about trying a program like the Scared Straight program on your clients to head off their delinquency careers?
6. Can you calculate (NNT) Number Needed to Treat for any studies?

Question #2 (30 minutes only, no more!)

Several students in our class will be entering teaching as a profession. My hat's off to them. Let's assume that one of you has taught for several years, and you now find yourself the principal of a middle school and high school that includes grades 7 through 12. You are concerned about alcohol misuse among young people through direct experience with several tragic situations. One group of students experimenting with vodka, and one drank a fatal dose of the stuff. Others among your precious student body will not live to graduate, because they were involved in another mishap related to alcohol misuse. You wonder what primary prevention program (primary means preventing the initial occurrence of a problem) would most effectively prevent alcohol misuse among young people. You have been given the mandate by the school board that you **must try something**. What approach would you try?

7. What is your COPES question here?
8. Please record your search plan here including terms to mark key concepts and to include appropriate MOLES.
9. Please record, if necessary on additional sheets, the most successful search histories or history for your group including the databases searched, terms applied, and numbers of hits, to locate your best document.
10. How credible is your best source relative to criteria on the appropriate evidence rating form? Please include a brief paragraph to summarize your assessment of the evidence quality.
11. What treatment does this source support most? Can you come up with an NNT?

Please sign your names below.

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Figure 1

Forces Converging to Make Research More Accessible

