

**Reflections on the teaching of EBP**

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Abstract

As the process of evidence-based practice gains a foothold in the curricula of schools of social work and the various helping professions, instructors have been encountering a unique set of challenges. On the one hand, educators must develop new curricula to convey material that is often complex and is, even in its most advanced state, still in its infancy. On the other hand, instructors may find themselves in the awkward position of challenging traditional classroom material and entrenched practices. This paper offers a supplement to EBP texts by practically discussing some of the philosophical tenets of EBP, suggesting steps to enhance the learning environment, offering instructional supports, and identifying a common set of pitfalls and some suggested solutions.

## Introduction

Since the introduction of Evidence-Based Medicine (EBM) by Sackett and colleagues (meta-analysis by found in Sackett, Richardson, Rosenberg, & Haynes, 1997; Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000), the helping professions have been struggling to define and implement what is commonly referred to as evidence-based practice (EBP). Although there has been an upsurge in the use of the term ‘evidence-based’ in almost all related disciplines (Shlonsky & Gibbs, 2004) there appears to be widespread misinterpretation of the original model in social work (Gambrill, 2003; Gibbs & Gambrill, 2002; Regehr, Stern, & Shlonsky, in press; Rubin & Parrish, in press). Perhaps people hear the words ‘evidence-based’ and assume they know what is meant by the term. Or, perhaps they have been influenced by someone who, unknowingly or otherwise, propagated an interpretation that is not based on the original. In any case, the field of social work is still apparently far from agreement about the term or its usefulness in practice.

## Defining EBP

We have found that the definition of evidence-based practice can only be understood when both the guiding philosophy and the model’s accompanying set of systematic steps are clearly explained. In terms of a model, EBP was originally defined as “the conscientious, explicit and judicious use of current evidence in making decisions about the care of individual patients” (Sackett, Richardson, Rosenberg, & Haynes, 1997, p.71). This core tenet, translated into a visual representation and applied to an individual client (Haynes, Devereaux, & Guyatt, 2002), is the integration of current best evidence, client clinical state and circumstances, and client preferences and actions (Figure 1). Although evidence may be weighted more or less heavily in this equation dependent on the state of our knowledge about a problem or situation, evidence is but one (albeit key) element of the model. The point is that the model is not meant to be mechanical or reductionistic (Regehr, Stern, & Shlonsky, in press). Rather, at its core, EBP embraces the complexity of experiences, circumstances, and tendencies of each and every client. Put into practice, the model calls for transparency and collaborative decision-making where knowledge is shared in an accessible way to the extent possible in the context of a helping relationship. Such an approach is difficult if not impossible to argue with. After all, who would quarrel with bringing the best evidence to a client and working with them to choose the right course of action given their life context?

Insert Figure I Approximately Here

EBP is far more than agreeing with these tenets and appreciating the model. The difficulty comes when trying to apply such an approach in practice. The second part of the definition of EBP involves a very specific series of steps one must take with respect to gathering, evaluating, and ultimately using evidence. This *process* of EBP involves posing a question that is both relevant and searchable in a database, finding and critically appraising the evidence, determining its applicability to the client at hand, and evaluating the outcome (for more detail, please see (Gibbs, 2003; Sackett, Richardson, Rosenberg, & Haynes, 1997; Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000). Simply providing any given client with a treatment that someone considers ‘evidence-based’ is not the *process* of EBP and is philosophically untenable (for a well-reasoned discussion of the counterarguments and objections to EBP, please see Gibbs & Gambrill, 2002).

For the purposes of this paper, we assume that the reader is familiar with some of the seminal EBP literature, including Sackett et al. (1997, 2000), Gibbs (2003), Gambrill (2003), 2003, and Gray (1997). Rather than recapitulating the nuts and bolts of EBP, we add to this literature by describing how we have begun to implement instruction in a school of social work and some of the lessons learned from the experience of teaching EBP at this school and elsewhere. We have previously discussed the importance of distinguishing between EBP and evidence-based or empirically supported practiceS (Regehr, Stern, & Shlonsky, in press). Although we teach both, the focus of this article is on teaching the *process* of EBP.

### Beginnings: Gaining a Foothold in the Classroom

The search and evaluative tools offered by EBP and EBM books are necessary but insufficient components of EBP. Every step in the process of EBP requires healthy doses of curiosity, skepticism, and a passion for finding the best possible knowledge in the service of helping, and these qualities must be brought out and supported in our students. In a very real sense, EBP is a way of putting critical thinking into systematic action, and this link has certainly been made in the literature (Gambrill, 2006). Thus, rather than simply teach the mechanics of EBP, students must learn how to think critically and conceptually about the information to which they are exposed and how to integrate this thinking into practice and policy implications.

### Setting the atmosphere

First, EBP is not a single semester endeavor and should not be presented to students as such. There is simply far too much information and the process must be practiced to adequate levels of speed and accuracy, as well as proper integration of findings with specific clients, programs, and policies. We have taken the approach of providing all students, including advanced standing, with an introductory EBP course in place of the standard research course, and then integrating EBP methods into many of our other courses. In other words, we have changed the curriculum to include an EBP class that touches upon the various elements of research but is geared more toward systematically searching, understanding, appraising, and using the literature. The basics taught in this class are then expanded and reinforced in subsequent core and specialization classes.

While this maximizes exposure to the principles and processes of EBP, it has also posed challenges in terms of structuring learning across different classes and instructors. Using a basic EBP assignment template can facilitate linkage between classes, and has applicability for both policy and practice (For example, see Box 1 for an EBP assignment template applied to a first year foundations of social work practice course). The downside is that students tend to resent what they perceive as having repetitive assignments. While there is some truth to this, the reality is that the process of EBP should be undertaken in virtually every practice venue. Repeating the process, using different client or policy questions, is essential in order to achieve a level of speed and proficiency that will enable students to continue the process upon graduation. Moreover, EBP is, at its core, a life-long learning process (Sackett, Richardson, Rosenberg, & Haynes, 1997). Not only will the questions change as one practices, but the evidence base will continue to grow and, in some cases, will change what we do to what effect. One way to ease the pain of repetition is to envision classes as building upon one another, much like general practice courses (i.e., moving from generalist practice in the first year to more specialized classes in the second). The structure and purpose of the assignments should be clearly presented to students in their first semester. For instance, first year courses build up from a simple search and report to more

sophisticated and lengthy endeavors, gradually ratcheting up the requirements for methodological appraisal. The second year continues this process, but also moves toward the seamless integration of clinical state/circumstances and client preferences. As well, the second year classes include a more nuanced consideration of how other factors (e.g., training, organizational resources, political context) enhance or detract from the adoption of EBP, possibly influencing the process of individual and social change (Regher et al., in press).

Second, students may be dismissive of EBP, viewing it and their assignments as being limited to narrow client problems and questions. They may resent having to “fit” their real world cases and situations into an EBP framework. This harkens back to the limited and misunderstood view of EBP as a process that does not encompass complexity. Evidence is not a magic bullet. Rather, it is an aid to clinical and policy decision-making and this requires critical thinking, often in the face of uncertainty. Thus, students’ concerns need to be welcomed and addressed through relevant social work examples that make the process come alive.

Third, an atmosphere of critical inquiry should permeate but not stifle. Presentation of reasoned arguments is encouraged but care must be taken that the process does not degenerate into endless philosophical debate. That is, if a student is going to continue to take a critical stance on EBP, they should be prepared to offer a reasonable alternative. At the end of the day, we have a client sitting in front of us and we must decide what to do. Rather than invoking the eternal debate about whether evidence is real or that perception is in the eye of the beholder, the rich critical thinking skills found in discourse analysis and the hermeneutic forms of inquiry can be used to help move the field toward a level of complexity that is much needed. Questioning the underlying assumptions we make with our clients is welcome - indeed it is essential. Socratic questioning, if done in a manner that is not threatening (i.e., curious but demanding speculation), seems to set the tone from the very beginning. Such an approach is interactive and leads by example. Fairly soon, students tend to pick up this approach with each other and the instructor, making for very lively and stimulating discussions.

### Creating A Culture of Inquiry

As with any class, the first day is the most important and sets the tone for the rest of the term. In an introductory EBP class, an interactive exercise that fleshes out some of the issues at stake is often successful. For instance, the Goosey Gander exercise (Ex 1) from Gibbs and Gambrell’s (1999) critical thinking workbook can facilitate the very first introduction to the importance of EBP, drawing out the differing perceptions of evidence that social work students bring to the classroom. Students are given three intervention scenarios and they are asked to choose the forms of evidence they would use to make their decisions. Students often choose more stringent forms of evidence for the medical intervention than for the social work intervention, facilitating a discussion of standards and how we may be shortchanging our clients. A former colleague (Barber, in press) encouraged a similar dialogue about the level of evidence required for personal decision-making vs. client interventions after passing out unidentified saccharin “pills” and water in initial EBP classes, telling students that it would make them smarter and help them with the course. Few swallowed the harmless tablets, but we ask clients to swallow many services that have little or no evidence supporting their use).

Following closely, the assumption is often made by students that social work interventions, while not always helpful, are never harmful. To refute this stance and, again, to facilitate critical thinking about what we do to what effect, a bit of social work history or assignment of classic studies on well-intentioned interventions with iatrogenic effects (Fischer,

1978) prompts some soul searching around the prospect that social workers can inadvertently cause harm. Some examples include the ‘Scared Straight’ program (exercise found in Gibbs & Gambrill, 1999; meta-analysis by found in Petrosino, Turpin-Petrosino, & Buehler, 2002) or Margaret Blenckner’s (1971) study of protective services for the aged. One of our colleagues talks to students about the possibility that, without a critical and systematic approach to practice, there is a possibility they could work with clients for the next 20 years only to find out that they have done more harm than good. Further, if communicating the risks and benefits of a proposed course of action is an ethical obligation (Gambrill, 2003), then these must be known by the practitioner. Regardless of a student’s theoretical orientation, basic social work ethics dictate that self-determination should be maximized. But self-determination is about choice, and reasonable choices must include full disclosure of risks and benefits.

The culture of inquiry must be maintained throughout the course, and this can often be accomplished by creating controversy. There are plenty of research examples that, if presented well, can foster impassioned debate among students. For instance, Wilson, Lipsey, and Soydan’s (2003) metaanalysis exploring the effectiveness of juvenile justice programs that use a culturally sensitive approach is bound to create a stir. Want more? Ask the students whether they believe 12-step programs are the only effective way to deal with an alcohol or drug addiction (Ferri, Amato, & Davoli, 2006). How about assigning Littell, Popa, and Forsythe’s (2005) metaanalysis of multisystemic therapy as well as the subsequent letters to the editor (Henggeler, Schoenwald, C.M., & Swenson, 2006; Littell, 2005; Littell, 2006)?

### Teaching the Process: Techniques and Pitfalls

EBP is not the job of some technician. It takes a great deal of clinical skill to successfully integrate current best evidence with client preferences/actions, clinical state/circumstances, and the practice context. Indeed, this coming together is the hardest part of the endeavor and is also the one we know the least about. We must be honest about our current limitations. EBP is an emerging approach and it will take considerable time and effort to make it work. Nonetheless, we find that taking students through several examples, from initial assessment through the search and appraisal and then back to the client or policy question, is one of the more helpful exercises. Certainly, active learning approaches are required. Sometimes this can be accomplished using a combination of videos and written assignments (see, for example, Howard, McMillen, & Pollio, 2003) where students are asked to make decisions that reflect on their clinical or policy and evaluative skills.

Posing answerable questions appears to be as difficult as Gibbs (2003) asserts. Most students initially need practice and feedback on their questions, whether from the instructor or peers, prior to conducting literature searches to enhance the likelihood of a successful search and to minimize becoming bogged down and frustrated. When posing questions and conducting searches, we encourage students to specify the intervention and desired outcomes whenever possible to focus the search. Students tend to say ‘better outcomes’ rather than specifying ‘improved cognitive functioning’ or ‘sustained employment.’ Another challenge at this stage is when a student cannot articulate a question. Some students are in placements that, for whatever reason, are slow to provide them with clients. There are those students, too, who have difficulty deciding which question to pose. Delays at the beginning wreak havoc later in the semester. Following Gibbs’ (2003) recommendation, we ask students to collaborate with their field instructor to find a question of interest to the agency.

When students are asked to pose an answerable question, beware the loaded question (otherwise known as the ‘CBT effect’). That is, rather than choosing a question that is firmly grounded in their work with clients, some students just search for clinical trials and, things being what they are, many of these involve CBT. On the other hand, some students will do anything to avoid evaluating clinical trials, preferring instead to frame a qualitative question. Neither of these approaches is true to the process of EBP and should be strongly discouraged. All assignments and corresponding questions should be directly related to practicum or student special interest. Although we know some instructors limit EBP assignments to effectiveness questions and we wholeheartedly support the need for students to be knowledgeable about the evidence base for interventions, our goal is to be as inclusive as possible of student interests and questions over a wide range of practicum placements (clinical, community, and policy). Commitment to the process of EBP can only be maintained within a permissive and engaging, yet structured environment. Our intent is to foster a critical dialogue, both in class and with comments on all assignments. In any case, a good instructor should be adept at applying systematic search techniques and rigorous evaluation procedures to all forms of questions.

We also need to emphasize the age-old research axiom about fitting the methodology to the question. In particular, explaining why a qualitative study does not answer an effectiveness question is challenging if students have not had adequate exposure to research methods. Although all of our students have a prior research course requirement for admission, students still enter the MSW program with widely varying levels of research knowledge. Our introductory EBP course is helpful for some students, but we find that we have to reinforce the basic tenets of research (e.g., basic study design, reliability, validity) in our other classes, linking it to specific case examples to solidify learning. In this way, basic research methodology becomes a part of social work practice. For some programs, it might make sense to consider testing student competency in terms of basic research design to assess the need for a prerequisite course or tutorial.

Once students have identified a searchable question, we recommend having a librarian come in the first time around to demonstrate using the various databases and to provide basic search tips. This should be augmented with doing an EBP search with methodological filters (called ‘MOLES’ by Gibbs, 2003) and an arranging of evidence in terms of its methodological rigor and subject specificity. Although students will have previously conducted literature reviews, they tend to have been cursory or not systematic. We find that they either include the kitchen sink or stop searching when they find what looks like a randomized controlled trial (RCT). One of the most frequent questions is ‘How many articles should be in the literature review?’ Our answer is always, “It depends. There’s no limit or minimum. You might find there’s not much out there. On the other hand, you might have to wade through many studies to find a few gems.” We also introduce students to systematic reviews and they are encouraged to search for rigorous systematic reviews on the Cochrane (<http://www.cochrane.org/>) and Campbell Collaboration (<http://campbellcollaboration.org/>) websites. Typically, students need a lot of guidance their first time through an EBP structured review. The process is very different than what they are used to and their tendency is to get lost in the methodology of a single study.

This is the time to focus more resources on students, meeting with them individually or in groups formed around areas of interest. Even optional extra classes can be helpful if resources such as a willing librarian or a teaching assistant are available. Requiring students to submit an annotated bibliography using EBP as their first assignment can flesh out problems before too much time is wasted. In general, we find that starting with smaller, less demanding assignments

helps foster success rather than frustration by ensuring that students are fully prepared to go to the next step. For example, this might mean segmenting the final paper into the steps of EBP (i.e., question, search terms, annotated bibliography, literature review and appraisal, application, final paper). Making exemplars of papers from previous classes available to students early on sometimes helps them to understand exactly what is being asked of them; seeing actual examples with applications to real clients and programs can bring out the value of the process and reduce assignment anxiety. By the same logic, we generally make lecture notes, complete with question posing and search strategies, available on line. Many problems with searches are simple coding errors that can be avoided when students have adequate examples from which to draw. Peer review groups using rubrics that explain what constitutes quality in each EBP area can also be helpful.

Overzealous students finding themselves making detailed methodological critiques must be guided very carefully lest they fall into frustration and, ultimately, disdain for the entire process. Actual studies rarely look like the textbook descriptions of design and methodology. Further, findings may be equivocal or mixed with respect to different outcomes, making it difficult for students to disentangle. Moreover, articles are seldom written in clear, concise language that is accessible to the lay reader. Some students also appear to have trouble distinguishing between epidemiological studies (good for answering ‘descriptive’ questions) and intervention studies, perhaps since epidemiological studies often make between group comparisons. The point is that students are not methodologists and they are likely to encounter problems. Curiosity can become frustration in the absence of sufficient support. Providing extra assistance, without stigma, is crucial for students facing challenges at this stage of the EBP process. We endorse the use of the Gibbs (2003) EBP text and the Gibbs and Gambrill (1999) workbook but, clear as they are, extra explanations are often needed for a large number of students. We refer students to helpful websites such as Bandolier (<http://www.jr2.ox.ac.uk/Bandolier/>) and BMJ (<http://bmj.bmjournals.com/>) offer detailed in-class explanations and examples, and frequently find ourselves meeting with students outside of class and via email.

Once students have completed their literature review and appraisal of the research, a number of tools can help them think about the implications for a particular client. One helpful approach involves getting students to conceptualize change in terms of probabilities. That is, the overall likelihood that a client will get better is an amalgam of many factors, each contributing to whether a client improves. The intervention is but one part of this calculus. The point is to present intervention choices that are most likely to pay off while incorporating into decision-making the other important factors related to overcoming the problem or not unintentionally creating new problems. Choosing wisely, however, implies that we know a great deal about our clients and this, in turn, implies we must also possess strong assessment skills and collaborate with clients in weighing the evidence and selecting interventions in the context of their preferences and lives.

One of the more important tools for translating research findings into readily understandable formulations of risk is Number Needed to Treat (NNT). This tool is basically a reworking of absolute risk reduction ( $1/ARR$ ) into a format that almost anyone can understand. NNT gives students the number of people that need to be treated in order to prevent one bad outcome. The other side of NNT, Number Needed to Harm (NNH), can also be a useful tool. For instance, an intervention might have an absolute risk reduction of .2 (e.g., 40% of the treatment group relapsed while 60% of the control group relapsed), translating into an NNT of 5

( $1/ARR=1/.2$ ). Thus, for every 5 people who receive the treatment, one person who would have relapsed will remain healthy. This number takes into account the fact that some people who do not receive the treatment will remain healthy while some people in the treatment group will relapse, a point many people miss when thinking about treatment interventions. Spending considerable class time on this construct in an introductory course is both necessary and helpful. Although students might find such calculations difficult at first, their intuitive understanding of risk and benefit will be enhanced and, once mastered, NNT can be a powerful tool to use with clients. As well, effect size (measure of the magnitude of difference between groups in an intervention study) is an important construct for students to understand so they can fully appreciate the difference between statistical and real world significance.

Despite efforts to build unique assignments into each class, the basic EBP approach is unchanging in its methods. This raises the possibility that some students will attempt to use the same review throughout their tenure at the school. In other words, watch out for repeaters! This is clearly against most academic policies. There are several solutions to this dilemma. The most elaborate of these is creating a school-wide searchable registry of titles and abstracts. This would enable instructors to insist on originality and would have the added benefits of tracking student interest over time, curtailing plagiarism, and helping students generate new ideas or at least incrementally add to old ones. Less elaborate would be to require students to hand in copies of papers for related classes. Each would suffice to ensure that students conduct multiple EBP reviews as part of their educational process. Another solution would involve having a distinctive set of features for each assignment which would require different types of write-ups but not necessarily literature searches. In some instances, this might be desirable, for example, if students are asked to integrate their findings into a clinical paper on a specific client for one class and write a policy position brief for their agency in another. For all of the above reasons, and others, we recommend having students turn in drafts of their work, including a few of the articles they are considering as exemplars.

### Transporting EBP from Class to the Field

One of the objections to EBP is that the approach is untenable due to time constraints faced by most social workers once they are employed full-time. Our response is to agree in principal that this may be the case, but to then encourage students to pick one client facing a commonly seen problem at the agency. Over time and many such clients, a knowledge-base can be generated that serves a far greater number. Moreover, as students become invested and adept at the process, they can be helped to brainstorm ways to integrate EBP into their settings and professional lives. Enhancing links between the curriculum and community practice is, of course, a faculty responsibility. One of the ways that we are doing this is through the school's Research Institute for Evidence-Based Social Work. The goal of the Institute is to make research knowledge accessible to practitioners and policy makers in order to ensure that consumers of social work services and programs obtain services that are based on the available evidence and are best suited to meet their needs (see Regehr, Stern, & Shlonsky, in press). We are trying to accomplish this in a number of ways including training agency personnel and social work students in the process of EBP and conducting practice-based research. Within areas of faculty interest, questions and issues in the field are identified and prioritized in collaboration with our network of social service agencies that work side-by-side with the faculty as community partners, thus increasing both the relevance of EBP and agency capacity to engage in the process.

Community agency partners must have a stated commitment to instituting evidence-based practice in their agency and a commitment to participating in ongoing training and capacity building. The first initiative of the Institute, *The Welfare of Children*, has a full complement of community partners with more agencies requesting Institute affiliation, suggestive of the field's interest in EBP and the success of our outreach.

Students still, however, encounter placements using interventions or supporting policies that have little or no empirical basis. This brings the student and classroom yet another opportunity to explore controversy and to strategize about how to facilitate change at the agency and/or policy level. At the very least, students are faced with the realities of the field (Howard, McMillen, & Pollio, 2003) and must struggle with a number of ethical issues (e.g., whether and how they raise objections to agency practices).

#### Humility in teaching EBP

Much like EBP itself, the integration of evidence-based practice into our curriculum and individual classrooms is a work in progress. The importance we attach to this endeavor as a school is exemplified by the structuring of our MSW research curriculum to include training in the process of EBP and by our commitment to providing a solid foundation in EBP for all students in our core curriculum. We have experienced delightful moments of student insight and growth, as well as many challenges. As we reflect on our continued teaching, we need to address the limits of the evidence base for social work practice and policy, especially in regard to intervention, a topic our students often raise and that has been written about elsewhere (Gibbs & Gambrill, 2002; Webb, 2001). Our field has a long way to go in this area. Nonetheless, even in fields with considerably greater access to high quality evidence, the complexity of the human condition is such that every person is a study unto themselves. We need to continually remind our students and ourselves that EBP is not just about evidence, but about integrating the best available information with social work skills and values that appreciate the ecological context of clients' lives. We aim at a minimum to be honest and respectful brokers of information attempting to help people make informed decisions about their lives.

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Box 1: First Year Foundations of Social Work Practice Final Assignment Template

The following is a suggested set of assignments, culminating in a final paper, that incorporates the process of EBP, including applicability to the client and/or agency, advanced search techniques, beginning appraisal of studies, and write up. This outline assumes the students have taken, or are concurrently enrolled in, an introductory EBP class using Gibbs (2003) as the primary text.

Posing an Answerable Question (10 points)

Begin with a brief (about 5 sentences) background describing your agency, the types of clients served, and why these questions matter to clients and the staff who help them. How many clients are affected? How serious is the problem?

Next, follow the guidelines in Gibbs (chapter 3) to develop 3 answerable questions and label them by question type (i.e., intervention, prevention, risk assessment, prognosis, descriptive).

Please use the table format found on page 84 and refer to the many examples listed by specialization in the book and refer to your lecture notes for clarification. The trick to succeeding in this assignment is to pose your question in this very specific manner, even if it seems awkward at first. You **MUST** make this question relevant to your field placement. In all likelihood, you will use one of these questions for your final paper.

Developing a Search Strategy (10 points)

Step 1: Taking your three questions from the first exercise, break apart each component of the question (fill in components from p.84 Gibbs) and list single words or short phrases that best describe each component. Depending on your topic area, select a discipline specific database to test your search terms (e.g., for a mental health intervention, choose PsycInfo in addition to Social Work Abstracts). Enter the terms from each component individually and use the database's thesaurus function to check your choice of terms, adding new descriptors if found.

Step 2: From your 3 questions, choose the question in which you and/or your agency are most interested. You will be working with this question for the rest of the semester, so choose wisely! Develop a comprehensive search plan for each component in step 1 including wildcards and proper ordering and combining of terms. For example:

For maltreated children who suffer from depression, what interventions work to alleviate depressive symptoms?

Type of question: Effectiveness

/\* 1. For maltreated children:

(child abus\* OR child neglect OR phys\* abu\* OR child abuse report\* OR emotional abus\* OR failure to thrive OR sex\* abus\* OR child protect\* OR child welfare)

AND

/\* 2. Who suffer from depression

(depress\* OR major depress\* OR seasonal affect disorder OR dysthym\*)

AND

/\* 3. Effectiveness and metaanalysis methodological filters (MOLES)

((Random\$ OR Controlled Clinical trial\$ OR Control group\$ OR Evaluation stud\$ OR Study design OR Statistical\$ Significan\$ OR Double-blind OR Placebo) OR (meta-anal\$ OR meta anal\$ OR metaanal\$ OR Systematic Review\$ OR synthesis of studies OR Study Synthesis))

Step 3: Conduct the searches using your search terms and make adjustments where necessary. A good way to do this is to check whether the articles that you find begin to answer the question you have posed. If they do not, try to find an article that does and look at the descriptors and key words contained in the title and abstract. Adjust your terms with this new information.

#### Evidence Appraisal (40 points)

Using basic EBP techniques, systematically evaluate the results of your search. Begin with detailing the problem area (general overview, prevalence of the problem, etc.) to provide context. Then, taking your findings, begin sorting them in terms of methodological rigor. In other words, find the best studies. Use the question specific study assessment tools (e.g., the Quality of Study Rating Form or QSRF for effectiveness questions) found in Gibbs (2003) to determine study quality. Also, be sure to search the Cochrane and Campbell Collaboration websites and pay close attention to any systematic reviews they contain. If there is a systematic review in your topic area, this can provide substantial evidence, though you should be careful to assess these (using the Gibbs 2003 META form) as well.

Some students find themselves getting lost in the detail of these studies and others tend to focus too broadly. Both can result in being confused about what to write in your appraisal. The best advice is to keep things simple. This exercise is designed to help you generate an honest

appraisal of what is known (and what is not known!) about a particular question. Provide the research design (i.e., experimental, quasi-experimental, cohort, etc), sample size, specifics about how the study was conducted, and important demographic characteristics. This can be in table format as an appendix or within the text. Talk about the strengths and weaknesses of each study. This can come from the article itself, the constructs on the rating form, or your own training and perception. Are there conflicting findings or do all the studies say the same thing? Are there variations in terms of rigor? What are the possible biases? In any case, the very best studies should be given more space than the less rigorous studies. The best evidence appraisals (and subsequent literature reviews) will include such things as effect size and/or NNT for effectiveness studies, reliability and validity coefficients for risk and prognostic studies, and sample characteristics and interview specifics for qualitative studies (i.e., how sample was derived, how similar is the sample to your client/agency).

#### Final Paper (40 points)

The final paper is the integration of the first three assignments with a specific client, policy, or program. Each of the following elements must be presented in 10 pages or less (double-spaced, 12 point font, one inch margins). The page limit will be strictly enforced in order to help students learn how to concisely convey complex material, a prerequisite for presenting to clients, supervisors, administrators, and policy-makers.

Papers should include the following:

- 1) A very brief (one paragraph) description of the agency and the context in which you work.

- 2) A description and assessment of the client and his/her presenting problem or, if a policy brief, the nature of the problem and a short analysis of relevant policies (1 to 2 pages). Be specific and include facts and figures wherever possible (i.e., reliability of assessment measures, type of data - self report, observation, intuition, etc.). For clients, please remember to use a pseudonym in order to maintain client confidentiality.
- 3) Using the information from your search and critical appraisal, write a literature review that addresses the question you posed and responded to in the evidence appraisal assignment. Begin by stating your original question and providing your search strategy (including databases you queried). Then, using the evidence you systematically collected and appraised, build an argument for choosing an intervention strategy or policy change. What recommendations would you make? How do you integrate findings from the literature with what you know about your client or policy situation?
- 4) Present a brief evaluation plan for monitoring the success of your course of action. Feel free to bring in monitoring strategies found in other fields. One example of monitoring would be a single subject design that took a baseline measure of functioning prior to intervention, then measured change in functioning at some point after the proposed intervention.

Figure 1

