



INSTRUCTORS' GUIDE TO TEACHING RESEARCH

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FOREWORD

The Massage Therapy Foundation has designed the following eBook to complement instructors' current methods for teaching research and research literacy to students. Some prior knowledge of research concepts and terminology is recommended in order for educators to make the most of this content.

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The *Instructors' Guide to Teaching Research* is a playbook of creative strategies and activities used by subject matter experts in the massage therapy profession to teach students:

- how to define research;
- why research is relevant;
- how to locate and access research resources, and
- how to become involved in conducting research.

Educators from all disciplines are encouraged to use and adapt any content which is applicable to their environment or the needs of an organization.

This creation of this eBook has been a collaborative effort. I would like to first thank the educators and massage therapists who spoke up and requested additional teaching strategies for research— you are the catalyst for this book. Second, I would like to thank the Massage Therapy Foundation and the MTF Board of Trustees for tasking us with this wonderful responsibility. This eBook would not have been possible without our dedicated foundation staff: Gini Ohlson, Christine Daskais, Marla Gamze and Helen Courtney. Finally, I want to thank the extraordinary group of educators, writers and editors that brought this work into being: Ruth Werner, Robin Anderson, Pete Whitridge, Nancy Levitt, Karen Hobson and Kevin Wade. I am grateful to have had the opportunity to work with each of you.

With gratitude,

Brent Jackson, M.Ed., BS, LMT
MTF Education Committee Chair
Vice President Massage Therapy Foundation

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SECTION ONE: RESEARCH VOCABULARY AND TERMINOLOGY

By Ruth Werner, BCTMB

Core Learning Objectives

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Upon completion of the section, instructors will be able to teach their students how to:

- define the terms included on the list of research terms (**Table 1.1**);
- compare the listed terms to each other, and
- apply the terms in the context of research articles and posters.

Topics in the Classroom

- How to research vocabulary in preparation for interacting with complex material.

Lesson Planning

It should be possible to cover this content in one or two classes if students are prepared ahead of time. It is possible simply to go through the vocabulary list, but it may work better to talk about sample studies while using the terms in context, and then query the students for the meaning of those terms.

Other interactive experiences will make this important information more engaging and less abstract.

Activities

- Read an abstract and then identify and define five research terms.
- Propose a research study, and use vocabulary words in the description
- Have students create flash cards
- Make a writing assignment: students must use as many terms as possible in a paragraph that makes sense; then they must explain it to a partner.

Assessments

Assess quality of learning transfer and determine how well students have met learning objectives.

- Use traditional testing methods such as fill in the blank, matching or multiple choice formats.
- Have students read a section of a study and to define key words in context.
- Assign a student reflection on vocabulary.



Ruth Werner's Suggestions to Teachers

I like to propose or describe **really bad** research ideas—using the key vocabulary—so that students can both follow the meaning and identify fallacies.

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TABLE 1.1 RESEARCH TERMS AND DEFINITIONS

Research Term	Definition	In context...
Anecdotes, anecdotal evidence	Informal stories, not rigorously analyzed.	Any sentence that begins “I have a client who...” is an anecdote.
Bias	Influence or prejudice in a particular direction; any threat to objectivity.	If a client is asked to provide a pain level on a Visual Analog Scale (Figure 2.1) to a therapist who just gave her a treatment, the scores may be inaccurate because the client wants to please the therapist.
Confound	Something that interferes with or confuses the connection between the treatment and the outcome.	If a client starts a new medication or exercise routine while undergoing a massage therapy trial, it could confound the results.
Control group	A group of subjects who do not receive the treatment being studied.	If both a control group and an intervention group have lower pain scores over time, then it is not clear how well the intervention worked.
Double blinding	Neither the participants nor the scientists collecting or processing the data know which participants are in the intervention arm and which are in the control arm of a study.	Double blinding works best in drug trials where subjects don’t know whether they’re getting the medication or a placebo, and scientists don’t know which group is the source of the data.
Empirical evidence	Evidence based on practical experimentation and observation, rather than on theory or logic.	It used to be thought that even careful massage was too dangerous for cancer patients. Empirical evidence has shown otherwise.

IRB (institutional review board)	Also called independent ethics committee or ethical review board: a formal committee that oversees the ethical considerations of human experimentation.	While massage therapy research seems to be benign, it is always important to have IRB oversight of experiments to make sure that the rights and welfare of human subjects are respected.
Likert scale	A scale in which a patient or subject in a study indicates a level of agreement with statements that are arranged in order from more to less strong or vice versa.	See Figure 1.1 .
Null hypothesis	A default position that one cannot assume a cause and effect relationship exists between observed phenomena; the null hypothesis suggests that no difference will be seen between a control group and an intervention group.	If we observe that when people who receive massage therapy report better sleep, the null hypothesis states that we cannot assume that massage therapy leads to better sleep. The purpose of an experiment is to test the null hypothesis.
P-value	Calculated probability that a result is linked to an intervention, and not to random chance.	The lower the p-value, the more likely it is that the intervention led to the observed effect.
Randomization	Using chance to determine the assignment of subjects to a group in a study. The purpose of randomization is to reduce the risk of bias.	Randomization is often challenging in massage therapy studies, because people who are not assigned to the massage group tend to drop out. This may confound the findings.
Reliability	The repeatability of a set of research findings.	A study that has radically different findings from similar projects may have questionable reliability.

Sham	Something that appears to be an active treatment, but doesn't include the components that are meant to make it work.	It is difficult to conduct a "sham massage," but comparing massage to an ultrasound treatment in which the participant and ultrasound technician are unaware that the ultrasound machine has been disabled is an example of using a sham in a massage therapy study.
Validity (external)	A judgment of how well a study reflects reality.	Clients with low back pain (LBP) often have a history of injury, surgery, medication use, and/or other factors. These complicated clients may be excluded from LBP studies. This means that the external validity of these studies may be challenged, because the true population of LBP patients is not represented.
Validity (internal)	A judgment of how well a study does what it intends to do and whether the internal logic is sound.	If a study is confounded by variables that change outcomes for some participants, its internal validity is low.
Visual Analog Scale (VAS)	A scale in which a patient or a subject reports a subjective experience along a continuum, provided by a 10-cm line.	See Figure 1.2 .

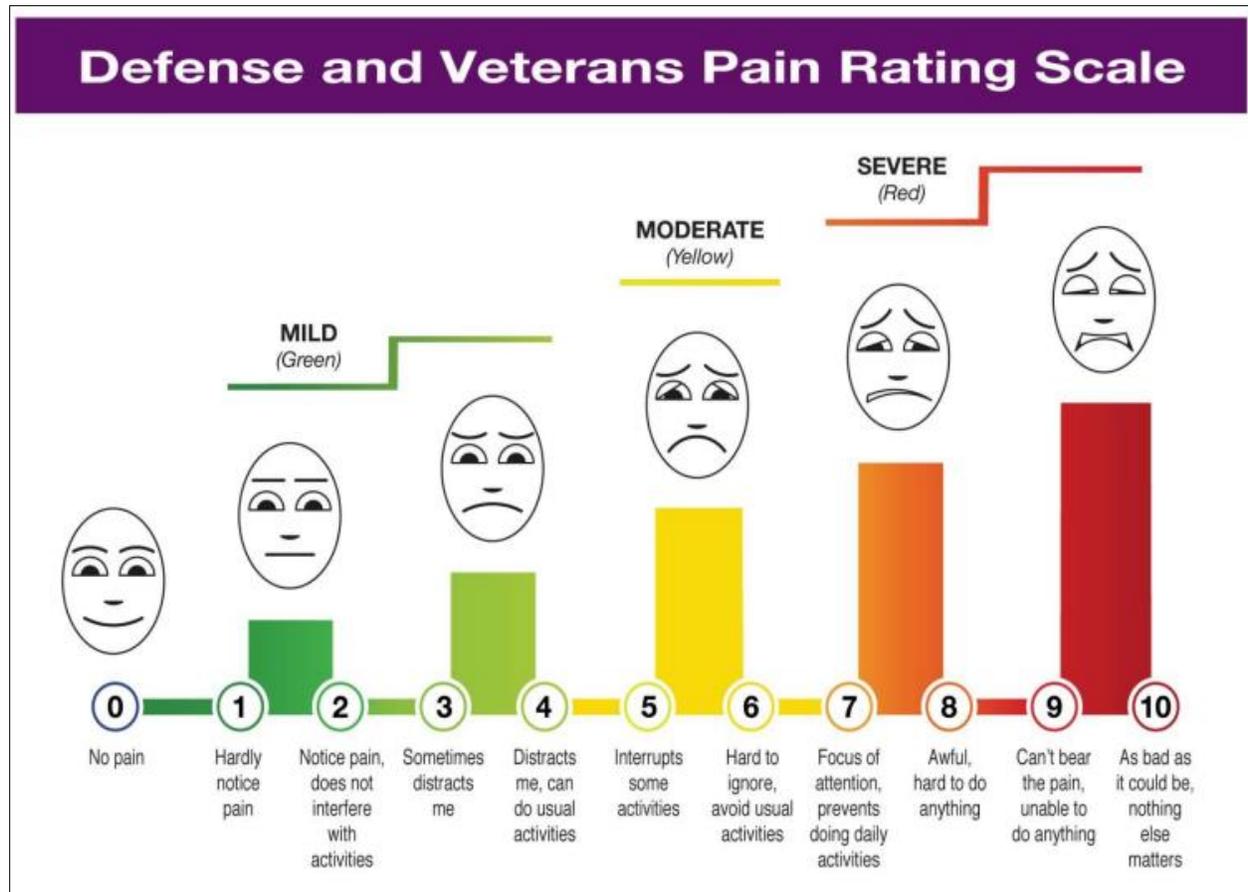
FIGURE 1.1: LIKERT SCALE

Please check the box that applies to your answer:
5 being the greatest level of achievement, 1 being the least

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	1	2	3	4	5
Learning Objectives:					
I attended all sessions					
I received new self-care knowledge					
I practiced skills/self-care during the week					
Quality of the program:					
Did program meet expectations?					
Was the facility adequate?					
Quality of massage					
Friendliness of staff					

FIGURE 1.2: VISUAL ANALOG SCALE



SECTION TWO: RESEARCH DESIGN

By Ruth Werner, BCTMB

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Core Learning Objectives

Upon completion of the section, instructors will be able to teach their students how to:

- define and describe the types of research contained in the Types of Research Design table (**Table 2.1**);
- compare the terms included on the list to each other;
- describe the hierarchy of research design and placement of terms on the list in the Research Pyramid (**Figure 2.1**);
- provide examples of experiments that represent one or more of the types of research described, and
- apply the terms on the list in the context of research articles and posters.

Topics in the Classroom

- Learn about the different types of research design in preparation for reading academic research articles.

Research Hierarchy

Not all research carries equal weight. Anecdotes and case reports may tell a great story, but they are not rigorously tested on a broad population, and we can't assume that all clients will have a similar experience to the one being described.

For instance, a single massage therapist might have great results with a client who has back pain, and that's important to share. But when we conduct clinical trials with dozens of clients who have back pain, we'll have a clearer idea of what a realistic outcome for massage therapy might be. When a team compares multiple clinical trials about massage therapy for back pain in a systematic review or meta-analysis then the power of that information is even greater.

The Research Pyramid (**Figure 2.1**) is a representation of how evidence moves up in both credibility and generalizability. Many different versions of the research pyramid are available, but they all move from individual opinions, stories, and reports at the base, to systematic reviews and meta-analyses at the peak. When we read a research article, it is important to be able to place it in the research pyramid to see how it relates to other studies on the same topic.

Lesson Planning

This content can be covered in one to two class periods with pre-class preparation by the students. Reviewing the list is an effective basic way to cover the material. For a more interactive session, consider discussing of some sample case studies and querying students as to which research designs are described.

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Activities

- Read an abstract, identify what type of research design it is and where it occurs in the research hierarchy.
- Propose a research study, then identify what kind of design(s) it uses.
- Create flash cards using the terms on the Types of Research Design table.
- Access the abstracts of at least three different research designs relevant to massage therapy from PubMed.gov and identify what type of studies they are.
- Create a research question in groups and discuss how it could be researched. Identify what research design types are the suggestions the group is making. It may prompt conversation about the challenges of different types of research design. Teachers could also have research questions created to give to groups.

Assessments

Assess quality of learning transfer and determine how well students have met learning objectives.

- Use traditional testing methods such as fill in the blank, matching or multiple choice formats.
- Ask students to compare two studies with different designs. What are the relative strengths of each? What are the weaknesses? Which design type is more compelling and why? This could be done individually or in groups.



Ruth Werner's Suggestions to Teachers

I like to have students do a Pubmed.gov search for relevant studies. Then from an abstract they must identify where the article belongs in terms of research hierarchy, and what kind of design the researchers used.

TABLE 2.1: TYPES OF RESEARCH DESIGN

Research Type	Description
Bench Research (basic research)	Research done in a controlled laboratory setting, using non-human species. Often conducted to examine cellular or molecular changes.
Case report	A detailed, rigorous observation and discussion of the effects of a treatment or a condition in one patient or client.
Case series	A collection of similar case reports (usually four or more) with a unifying component such as a treatment approach or condition.
Clinical research	Research that looks at safety, efficacy, and effectiveness of interventions in human subjects.
Comparative effectiveness study	A study that compares one intervention to at least one other that is recognized as effective, with the purpose of determining which is best; can also involve combinations of interventions and other permutations.
Crossover study	A research study in which each subject is examined under at least two conditions, for instance, while receiving a series of massage sessions and while receiving no massage.
Descriptive study	A study whose results are reported without statistical testing.
Effectiveness study	A study that examines whether an intervention is effective in an environment that is similar to or is a real-life setting.
Efficacy study	A study that examines whether an intervention is effective in a controlled environment that may use randomization, blinding, strict inclusion criteria, specific protocols with the interventions, and precise, objective measures.

Ethnographic research	A type of qualitative research in which investigators immerse themselves in a real-life environment to collect observed data.
Feasibility study	A small project that examines certain aspects of research design to determine the extent to which they may be practical in a full-scale research study.
Mechanistic study	A study that examines the exact route by which an intervention produces an effect.
Meta-analysis	A method of statistical analysis that combines results from multiple similar trials. Meta-analyses are considered to provide the most rigorous possible conclusions about an intervention.
Mixed methods study	A study that collects and combines quantitative and qualitative data.
Observational study	A study in which the investigator passively observes what happens in various circumstances, but does not try to influence those circumstances.
Pilot study	An initial look at a hypothesis; pilot studies are typically small in scale and designed to determine whether a larger more robust study is justified.
Practice-based research network (PBRN)	A group of practitioners or practices that participate jointly in research studies that might be conducted remotely via surveys or as multi-site interventions.
Proof-of-concept study	A small project that tests whether a principle or idea has potential to be useful in a larger scale project.
Qualitative research	Studies in which data reflect qualities, or descriptive observation properties, rather than objectively defined measures. Qualitative research often includes semi-structured interviews and open-ended questions.

Quantitative research	Studies in which specific, objective, precise measures are collected and reported such as temperature, angles, units of time.
Randomized control trial (RCT)	Studies in which most, if not all, aspects of the design are controlled for bias, using randomization and control groups. Originally developed to test pharmaceutical interventions, RCTs are often considered the “gold standard” in research, but this design tends to be problematic for research about massage therapy and other patient-centered disciplines like nursing.
Systematic review	A careful narrative literature review focused on a research question with strict search and inclusion criteria.
Translational research	Studies intended to build on findings from bench research to develop interventions that are applicable for humans; sometimes called “bench to bedside” research.

FIGURE 2.1: RESEARCH PYRAMID



For more information on the research hierarchy visit:
<https://guides.library.uab.edu/ebd/evidencestrength>

SECTION THREE: EVALUATING AND APPLYING RESEARCH

By Brent Jackson, M.Ed., BS, LMT

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Core Learning Objectives

Upon completion of the section, instructors will be able to teach their students how to:

- evaluate the quality of research;
- identify characteristics within population sampling and selection techniques;
- identify strengths and weaknesses with data collection, methods, and inferences or conclusions;
- discuss applicability of a study to everyday practices, and
- identify the value of the study including validity outside of the study population.

Topics in the Classroom

- Statistical inference – errors and faulty inferences
- Application of evidence-informed practice to clients in any setting
- Evaluation and classification of type of research conducted
- Identification of variables which affect a study, but may not be mentioned:
 - setting;
 - medications;
 - massage therapist skill level;
 - language and tone;
 - data collection techniques, and/or
 - the presence or absence of a control group.
- Discussion of research methods and data collection/interpretation
- Gaps in the research process of a study
- Population size and sampling strengths and weaknesses

Lesson Planning

This portion of the lesson should be two to eight hours in length, depending on the depth of evaluation the instructor is striving for. When designing curriculum and learning activities for research evaluation, it is fundamental for students to have prior understanding of the types of research and their placement in the hierarchy of research (see **Figure 3.1**). Research studies can range from a very basic observation process to a detailed meta-analysis. The information and vocabulary found in the previous sections of this eBook are necessary for students to be able to begin evaluating research. Another key component of any activity or lesson is to remind students that it is acceptable to be critical as long as objectivity is maintained. Students should question the reliability, validity, methods, inferences and design of a study. Additionally, it is

important for students to understand that research neither proves nor disproves anything; rather it supports or does not support.

A great starting point is for students to first understand the differences between primary, secondary and tertiary sources of information. As an instructor, you should ensure that students do not confuse secondary sources or trade journals with peer-reviewed, primary sources.

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Statistics can be a tough subject for some massage therapy students, but showing them how smaller experiment populations can yield faulty inferences is important. An instructor can demonstrate this with a simple math example. For example, asking students to give you “75% of 4” and “75% of 250” can easily demonstrate how the statistical information is similar, yet the referenced population quantities are completely different. Three out of four is 75%; yet three out of 250 is only 1.2%. This can lead into a great discussion with students about random population sampling and the ability to generalize the results to an overall population.

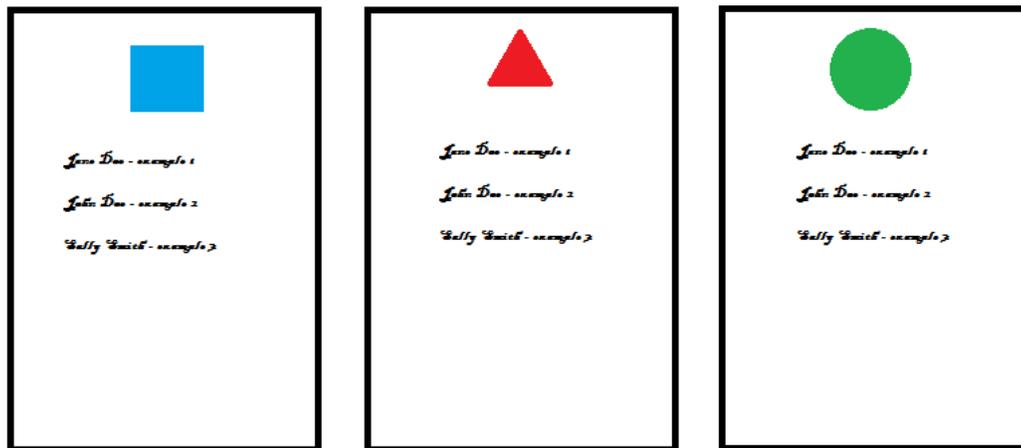
When evaluating a study, students should disassemble it to better identify weaknesses and strengths. Weaknesses include the variability of massage therapists’ skills and training, lack of consistent massage therapy process, identifiable gaps in research or methods, environmental factors, data collection times, data collection stressors or bias, and other variables that may have affected the results or processes. Strengths are areas identified by the students as being sound in approach and design, with well-supported reasoning. The students must also determine if a study or conclusion would support their own practice, population, techniques, etc. Not only do the parameters and processes of a study need to be valid, but the students should be able to judge if the study and its approaches are valid to their own massage therapy practices. Reflection is key in their reasoning and support of validity.

Activities

The following are a few ideas for activities that can be completed to evaluate research. These can be done either in-class or via online discussion forums.

- **Study analysis and break down:** An easy activity to incorporate into a research course or massage therapy course is to supply the students with an existing research study. Break students into two groups which will debate two opposing views on the study. Groups could be “strengths,” versus “weaknesses,” “well-designed,” versus “poorly designed,” or “supports evidence-based practice,” versus “does not support evidence-based practice.” Each group must cite evidence within the study to support their point of view.

- Analysis shapes activity:** In this activity the instructor uses predetermined shapes and colors for characteristics of the study. The shapes can be written or drawn on copies of a research study and then drawn on large pieces of paper and taped to the walls or tables of a classroom. The instructor will determine which shapes and colors have specific meanings for the desired criteria and options. After the students identify the criteria on their copy of the research study, they then write their example or answer on the piece of paper with the identifying shape. For example a blue square may be an example of strength; red triangle may be the type of research, and the green circle may be an example of a weakness.



- “If I could have...” activity.** This exercise asks students to redesign a study to address its weaknesses and explain reasons for keeping other criteria they deem as strengths of the study or design components within the study. Students can give design proposals to the instructor and explain their reasoning for the updated design to the class.

Assessments

Assessments should demonstrate how to assess learning transfer of the topics to meet learning objectives. Here are a few suggestions for assessing the learning objectives.

- Narrative with follow-up questions.** This method allows the instructor to assess each student individually. The instructor should supply a brief narrative describing the instructions for answering questions related to the above activities. This method allows the instructor to gauge what each student identified in the activities and the overall understanding of the content. The questions can be as simple as identifying criteria or giving supported reflection.

- **Group discussions.** Group discussions, including online discussions, are great for assessing the ability for the student to evaluate and articulate their evaluations to other class members. The instructor is able to disseminate a central study and allow students to share their findings and responses within a group atmosphere. This activity often allows for students to share different perspectives on applicability and weaknesses. Group activities can also be used to build confidence in research evaluation before moving into individually graded evaluations or presentations.
- **Student reflection journals on studies.** This method allows for instructors to assign multiple studies or research articles to students over a time period. The research articles can be pre-assigned or the students can have the autonomy of choosing their own studies. Instructors can give a template to guide the students in reflection or allow free form reflection of weekly or monthly studies. The students will keep a record of their journal entries for the instructor to review.



Brent Jackson's Suggestions to Teachers

Encourage students to be critical of all information. All studies have strengths and weaknesses. Instructors should be careful not to be biased in leading students into evaluation based on content or procedure. Remind students that understanding of subject matter may change over time.

References:

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- Perrin, K. M. (2015). *Principles of Evaluation and Research for Health Care Programs*. Burlington, MA: Jones & Bartlett Learning.
- Werner, R. (2019). *A Massage Therapist's Guide to Pathology: Critical Thinking and Practical Application* (7th Ed.). Boulder, CO: Books of Discovery.

FIGURE 3.1: RESEARCH PYRAMID



For more information on the research hierarchy visit:
<https://guides.library.uab.edu/ebd/evidencestrength>

SECTION FOUR: LOCATING AND ACCESSING RESEARCH RESOURCES AND DATABASES

By Pete Whitridge, BA, LMT

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Core Learning Objectives

Upon completion of the section, instructors will be able to teach their students how to:

- use keywords and search terms and to develop methods to narrow the search terms into usable and relevant results;
- develop a topic of interest and assign relevant keywords and search terms;
- retrieve and evaluate at least four different papers on a topic of interest;
- use and receive notifications through PubMed and other reliable sources, and
- devise strategies to navigate around paid subscription limitations to retrieve and review relevant resources.

Topics in the Classroom

- Finding evidence or information for massage therapy practice
- Gaining deeper knowledge about a subject or specific client population
- Computer skills, keywords, and search terms
- Search engines: Google Scholar, open source vs. subscription
- Saving and retrieving information with folders and search histories

Lesson Planning Topics

Locating and Accessing Biomedical Information

The ability to search, save, and archive information for future use is vitally important as a student in health and wellness. Clients arrive for treatment with numerous and varying health conditions. Massage therapists cannot be expected to be experts on every disease or condition, but can learn to quickly gather basic information about the conditions that clients face. Knowing how to search and use medical terminology will help students quickly and easily review the appropriateness of their treatment for a client. Students must learn how to locate and retrieve peer-reviewed journal articles that may provide a basis for the therapy they are offering to their clients. The National Library of Medicine (NLM) offers video tutorials and other resources to help you utilize their services (<https://www.nlm.nih.gov/training.html>). Students should be familiar with the list of sources of biomedical information provided by NLM (**Figure 4.1**).

Activities

Basic Requirements: Students and instructors must have internet access at individual stations or portable devices. The instructor must have previously obtained an account and have created at least five folders and search histories (bibliographies) for students to observe and have visual understanding of the layout of pertinent sites (PubMed, Google Scholar and Cochrane).

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- **Establishing a Search Account:**

1. **Screen Share:** Instructor uses a screen-sharing system to first demonstrate logging into these pages:
 - a. PubMed: <https://www.ncbi.nlm.nih.gov/pubmed/>
 - b. Google Scholar: <https://scholar.google.com/>
 - c. Cochrane Review: <https://www.cochrane.org/>
2. **Review:** The instructor goes through the features and benefits of each search engine, briefly outlining layout, style, dropdown bars, and interesting or frustrating parts of each site.
3. **Activity Instructions:** Ask a volunteer to demonstrate the log-in process while the class watches. The volunteer's information will be added step by step so that each area can be discussed for relevance, questions can be addressed and examples of possible answers and notifications can be set up.
4. **Expected Result:** All students will have established an account with login credentials and a complete profile. Students will have established one notification to an electronic device. Students will create an archive of notifications for future reference to be reviewed by the instructor.

- **Keywords and Search Terms Activity**

1. **First Keyword search:** Pick a term relating to massage therapy. Log in to your search accounts and use the predetermined keywords.
Results expected: Screenshot of search results, place in archive for future reference, how many results? Were there current articles? Was this topic relevant for you?
2. **Second keyword search:** Refine previous search. Add a term or topic to narrow and refine your search.
Results expected: Screenshot of search, archive, did this refine your search? Review a few studies and see what terms are being used in this study.
3. **Third keyword search:** New search, new words, new topic, compare results to previous search.
4. **Fourth keyword search:** Refine above or develop a new search (student's choice).

Assessments

Instructors should be experienced in the use of these services before implementing these activities. Once you are versed in strategies for searching and archiving you can use examples for your own practice interests and past searches.

- There are excellent tutorials available through PubMed. Link for full tutorial page: <https://learn.nlm.nih.gov/documentation/training-packets/T0042010P/>

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Ask students to pick subjects that interest them and/or relate to their practice goals. High Blood Pressure, Diabetes, Asthma, and Surgical Interventions are all possible areas to explore. Have students use the Medical Subject Headings (MeSH) Database (<https://www.nlm.nih.gov/mesh/>) as a starting point for their searches. This may stir some curiosity and start the process for successful searching in the future. Students usually have family members with some type of disease or diagnosis, use these issues as a search starter.

- Students can join this group: <https://www.students4bestevidence.net/> to learn even more about research findings and evidence-based topics that involve manual therapies and clinical practice.
- You can create a “flipped classroom” by having the students review this [video](#) prior to class. Then during class you can recruit a volunteer to perform a login and practice search for the class to review and offer comment. Discussion could be focused on: the number of hits, narrowing the search, determining if this search is helpful, saving/archiving of the search, or any other issue encountered during the search.
- Use Dropbox, Google Drive or some other file sharing accounts that they share with a class (LMS). This facilitates the return of homework and allows the instructor to read and review submitted materials via digital methods.
- Listen to Massage Therapy Foundation’s *Research Perch* podcasts and then find the research article associated with the discussion topic.



Pete Whitridge’s Suggestions to Teachers

Some instructors and institutions have Dropbox, Google Drive or some other file sharing accounts that they share within a class Learning Management System. If you have access to such a system, make use of it. This facilitates the return of homework and allows the instructor to read and review submitted materials via digital methods.

FIGURE 4.1: SOURCES OF BIOMEDICAL INFORMATION PROVIDED BY THE NATIONAL LIBRARY OF MEDICINE

PubMed

<https://www.ncbi.nlm.nih.gov/pubmed/>

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PubMed is a free resource developed and maintained by the National Center for Biotechnology Information (NCBI), a division of the National Library of Medicine (NLM) at the National Institutes of Health (NIH). PubMed comprises over 22 million citations and abstracts for biomedical literature indexed in NLM's Medline database, as well as from other life science journals and online books. PubMed citations and abstracts include the fields of biomedicine and health, and cover portions of the life sciences, behavioral sciences, chemical sciences, and bioengineering. PubMed also provides access to additional relevant websites and links to other NCBI resources, including its molecular biology databases. PubMed uses NCBI's *Entrez* search and retrieval system. PubMed does not include the full text of the journal article; however, the abstract display of PubMed citations may provide links to the full text from other sources, such as directly from a publisher's website or PubMed Central (PMC).

NCBI is now a leading source for public biomedical databases, software tools for analyzing molecular and genomic data, and research in computational biology. Today NCBI creates and maintains over 40 integrated databases for the medical and scientific communities as well as the general public. There are over three million visitors daily to its website, with approximately 27 terabytes of data downloaded per day. The number of users as well as downloads increases dramatically each year.

PubMed Central (PMC) - Open Access Articles

As an archive, PMC is designed to provide permanent free access to all of its content, even as technology evolves and current digital literature formats potentially become obsolete. NLM believes that the best way to ensure the accessibility and viability of digital material over time is through consistent and active use of the archive. For this reason, free access to all of its journal literature is a core principle of PMC.

How Journal Articles are Provided to PMC

PMC is a repository for journal literature deposited by participating journals, as well as for author manuscripts that have been submitted in compliance with the public access policies of participating research funding agencies. PMC is not a publisher and does not publish journal articles itself.

PMC offers publishers a number of ways in which to participate and deposit journal content in the archive. Journals that would like to participate in PMC must

meet PMC's minimum requirements, submit a formal application, and undergo a review of the scientific and editorial quality of the content of the journal as well as a review of the technical quality of their digital files.

MedlinePlus

<https://medlineplus.gov/>

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MedlinePlus is NIH's website for patients and the general public. Produced by NLM, the world's largest medical library, it includes information about diseases, conditions, and wellness issues in language you can understand. MedlinePlus offers reliable, up-to-date health information— anytime, anywhere, and for free. Use MedlinePlus to learn about the latest treatments, look up information on a drug or supplement, find out the meanings of words, or view medical videos or illustrations. You can also get links to medical research or find out about clinical trials on a disease or condition.

Health professionals and consumers alike can depend on it for information that is authoritative and up-to-date. MedlinePlus has extensive information from the NIH and other trusted sources on over 1000 diseases and conditions. There are directories, a medical encyclopedia, health information in Spanish, extensive information on prescription and nonprescription drugs, and links to thousands of clinical trials. MedlinePlus is updated daily. There is no advertising on this site, nor does MedlinePlus endorse any company or product.

International Journal of Therapeutic Massage and Bodywork (IJTMB)

<http://ijtmb.org/index.php/ijtmb/index>

IJTMB is a peer-reviewed journal provided by the Massage Therapy Foundation focusing on the research (methodological, physiological, and clinical) and professional development of therapeutic massage and bodywork and its providers, encompassing all allied health providers whose services include manually applied therapeutic massage and bodywork. The journal provides a professional forum for editorial input; scientifically-based articles of a research, educational, and practice-oriented nature; readers' commentaries on journal content and related professional matters; and pertinent news and announcements. Sections include:

- **Editorial** - Editorials contributed by one or more members of the Editorial Board and/or invited colleagues serve to provide a context for a given issue's content and inform readers of anticipated professional themes that might guide future journal content.
- **Research** - The research section of the journal is open to manuscripts representing a range of possibilities including quantitative, qualitative, and integrative studies of manually-applied therapeutic massage and bodywork. This

latitude is intended to accommodate the continually expanding research methodology options available to scholars in health science fields.

- **Education** - The education section of *IJTM* provides a forum for therapeutic massage and bodywork educators and education researchers to share their experiences, research, and resulting insights. Topics include curriculum and competencies development, instructional design and delivery, instructional technology, distance learning, and testing/evaluative procedures. Information covers both pre-service and in-service educational and training programs. The overarching theme of evidence-informed and competency-based education is encompassing enough to give direction to prospective authors interested in addressing the myriad topics of concern to instructors in classroom, clinical, and continuing education settings.
- **Practice** - The practice section of the journal provides a venue for practitioners/clinicians and clinical practice researchers to remain current regarding the diverse issues that present themselves as the science and practice of massage continues to advance and clients become more informed and demanding regarding the services they receive. Topics in this section include the planning, organizing, marketing, and managing of a successful practice; and clinical practice research covering: the incorporation of new scientific findings and methods into clinical practice, new clinical approaches to prevention and treatment of specific health conditions, and ethical issues.
- **Commentaries** - Brief articles or essays covering topics relevant to the massage therapy profession including an unstructured abstract of less than 150 words, 2500 words or less, no more than two tables or figures (combined), and no more than 20 references.
- **Letters to the editor** - Reader input is encouraged on any aspect of the journal; especially in regard to reactions to specific published articles, with the opportunity for author response provided. Maximum of 500 words.
- **News/Announcements** - Professional matters deemed newsworthy and justifying acknowledgment are encouraged as additional features of the journal. Announcements of forthcoming professional conferences as well as the accomplishments of colleagues are also examples of the intent of this sector of the journal. Commercial advertising of services or products is prohibited. Items for this section can only be submitted by the Journal Editors.

Cochrane Library and Reviews (CDSR)

<https://www.cochrane.org/>

CDSR is the leading journal and database for systematic reviews in health care. *CDSR* includes Cochrane Reviews (systematic reviews) and protocols for Cochrane Reviews as well as editorials and supplements. *CDSR* (ISSN 1469-493X) is owned and produced by Cochrane, a global, independent network of researchers, professionals,

patients, caregivers, and people interested in health. *CDSR* covers any topic relevant to health care, including health services.

- **Cochrane Review** - The *CDSR* includes all Cochrane Reviews (and protocols) prepared by Cochrane Review Groups. Each Cochrane Review is a systematic review that has been prepared and supervised by a Cochrane Review Group (editorial team). It attempts to identify, appraise, and synthesize all the empirical evidence that meets pre-specified eligibility criteria to answer a specific research question. Researchers conducting systematic reviews use explicit, systematic methods that are selected with a view aimed at minimizing bias, to produce more reliable findings to inform decision-making. Cochrane Reviews are updated to reflect the findings of new evidence when it becomes available because the results of new studies can change the conclusions of a review. Cochrane Reviews are therefore valuable sources of information for those receiving and providing care, as well as for decision-makers and researchers.
- **Protocols** - Cochrane researchers use protocols to describe the proposed approach for a systematic review. A protocol outlines the question that the review authors are addressing, detailing the criteria against which studies will be assessed for inclusion in the review and describing how the authors will manage the review process. Protocols contain information that defines the health problem and the intervention under investigation, how benefits and harms will be measured, and the type of appropriate study design. The protocol also outlines the process for identifying, assessing, and summarizing studies in the review. By making this information available the protocol is a public record of how the review authors intend to answer their research question.

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Journal of Bodywork and Movement Therapies

<https://www.bodyworkmovementtherapies.com/>

Journal of Bodywork and Movement Therapies is a peer-reviewed journal that brings you the latest therapeutic techniques and current professional debate. It is published with highly illustrated articles on a wide range of subjects. This journal is immediately relevant to everyday clinical practice in private, community, and primary health care settings. Many techniques are featured and include: Physical Therapy, Osteopathy, Chiropractic, Massage Therapy, Structural Integration, Feldenkrais, Yoga Therapy, Dance, Physiotherapy, Pilates, Alexander Technique, Shiatsu and Tuina, Occupational Therapy, Tai Chi / Qi Gong, Cranial Therapy, Neuromuscular Therapy, Lymph Drainage, Sports Therapy, and Applied Kinesiology. It is essential reading for all those involved in the assessment, diagnosis, treatment and rehabilitation of musculoskeletal dysfunction. This is a subscription based resource with affiliation to many national and international organizations, societies, associations.

SECTION FIVE: GETTING INVOLVED IN RESEARCH

By Robin Anderson, MEd, LMT, BCTMB, CEAS, and Kevin Wade, LMT, CINT

Core Learning Objectives

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Upon completion of the section, instructors will be able to:

- integrate research to support session/lesson plans;
- incorporate research literacy tools and concepts into the curriculum they use now, and
- develop students in case report writing skills

Topics in the Classroom

- Identify parts of a research article and sections of a case report
- Recognize how research is used in professional massage therapy practice
- Apply research article information to treatment planning
- Common-day analogies relating to the use of a research concept
- Apply what you know, using research to help clients and market yourself
- Parts of a research article and a case-report structure

Lesson Planning and Activities

Over the years, we have experienced many students being intimidated by the thought of research. They do not think they can understand it, they question its application and usefulness to them when they become practitioners, and they want to know why they need to learn this. This unit is the demonstration of where the rubber meets the road coming into play. You, as the instructor, must help your students to see the value in research, to help them overcome their fear of it, and to introduce them to how to engage with it.

The lesson plan for this unit involves a scaffolding technique that progresses like this:

- **Part 1** – How can I understand research?
- **Part 2** – The main parts of a research article
- **Part 3** – Examining how research is used and applied
- **Part 4** – Creating a research plan

Part 1: How Can I Understand Research?

In this section, the goal is to take the fear out of understanding research. One of the best ways to do this with complex topics is to relate it to something common to any student's daily life. Smart phones are a good example. Even ten years ago, mobile communication and internet access was not as widespread as they are today. Cell phones were initially used only for making calls and few people had them. Those who did were physicians on call and high-ranking business executives. Remember the first Blackberry phone and how innovative that device seemed? If you have older students they may remember when these forms of communication didn't even exist.

Today practically everyone has a smartphone device; texting is a common form of instant communication and you can Google the answer to just about any question you have. How did we get to this point in mobile technology? We got here because researchers and engineers in information technology, computers, communications, and similar fields asked the question, "what if?" "What if we could create a device that was capable of being a mini-computer that could not only be a primary form of communication but can also serve as an instant source of information on any subject?" Those researchers designed inventions and tested them through research. Once it was proven that the devices worked, communication companies provided the funding and marketing to bring them to the public marketplace.

While this example may seem like it has nothing to do with massage therapy, in many ways there are parallels. For instance, it was previously taught that massage is contraindicated for pregnant women in the first trimester and that applying contact to certain points on the body could induce labor. Thanks to the efforts of research, we now know that there is no evidence to support these claims. This myth has slowly been dispelled through practitioners reading the research evidence and textbook authors supplying this data so the information can be taught correctly to students. As with any medical condition, pregnant women should still consult their doctors before receiving massage, but a full physician written release is no longer required. It is because of research that we can confidently make these claims and can share them with our clients and other medical professionals.

Students will still question whether they can understand how to read or comprehend complex scientific research language. In Section One of this eBook we have provided a list of terms (**Table 1.1**) to help students become familiar with the language of research and help to demystify its complexity.

Part 1 Learning Activity: Recipes

Activity A: Find a simple recipe (dessert, appetizer, main course, your choice) for a dish that you have never made before. Good places to find recipes online are Pinterest, Food Network website, HGTV website, etc. Make

the dish according to the recipe and write a paragraph about your experience. Some prompts for your first paragraph: Was the recipe easy or hard to follow? Did you complete it in the time suggested? Did it serve the number of people it was supposed to? Did the item turn out close to how it was pictured?

Activity B: Exchange recipes with a classmate and make the dish that they chose and write a second entry about your experience with making the other recipe. Have a discussion about your experiences with recipes. Have the students bring their dishes in to share!

Tips: If your school has a learning management system such as BlackBoard, Canvas, Moodle, Google Chats, or similar system, you can do this activity in a discussion board format. If not, they can write out their experience for the first part and then have a live discussion and food sharing for the second component. If food allergies are an issue or it is against your school policies, you do not have to have students share their food with each other; however, it does make for a very meaningful experiential learning exercise. The students don't even realize the relevance of it at first, but it does come full circle and is very effective.

Part 2: The Main Parts of a Research Article

In this section, we help students become comfortable with the general landscape of a research article:

- Abstract
- Introduction or Literature Review
- Methods
- Results
- Discussion/Conclusion/Summary, and
- References.

It is helpful to provide a simple definition of each section and an excerpt example of each to demonstrate the content that can be found there.

Part 2 Learning Activity: Article Section Puzzle Game

Take the six sections of a research article and divide sections of actual articles. Have the students read an excerpt and try to identify what section of a research article it is from. You can also do this as a hangman game or even post sections on a classroom wall using sticky notes to identify each section. Have your students explain why they classified the section in that way. Help them find common identifiers in different types of research articles (e.g., randomized control trial, case report etc.).

Part 3: Examining How Research is Used and Applied

You have now taken away the fear and helped students to navigate research articles and develop basic comprehension of them. Still, one of the common perceptions that students tend to make is that statistical data is difficult to understand, often times intimidating. We suggest that you refer to the section on evaluating research validity to assist them with this difficulty and emphasize that all research, regardless of the presentation, publication, or statistical support, can have weaknesses and we should always have the courage to question them. The section on evaluating research will also help your students with these fears.

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The next step is to show how research is used and applied. Ultimately, as a massage therapy instructor, you have a professional responsibility to present the most current information, so your students are fully prepared to enter the profession. When you cite research as part of your lectures, you not only convey evidence-based thought on massage therapy, you also model how to incorporate research studies into any activity.

There are many instances that should lead us to seek out research. Ultimately, we have a choice: accept, “I don’t know,” and leave it at that; or offer “I don’t know, but I will do my due diligence and review the research in order to find out”.

Common reasons for seeking and consulting research sources:

- A client/student question
- A pathology or clinical situation that a therapist or teacher does not understand
- Regular review of journals for the sake of staying informed
- Connection to a network of people who read research and share it

Part 3 Learning Activities:

In-Class Activity: Listing the Sources

The instructor and class should create a list of uses for research including labor trends, client perceptions, trends in services, ethics, and any additional uses that the students can list. Then using each item on the list, the students must work as a group to locate an example of a study that addresses the use/category. Encourage students to think critically by incorporating studies from other professions and resources.

Clinical Experience Reflection Discussion and Exercise

In the later stages of student clinical experiences, have students discuss common pathological conditions they routinely see. Then take two or three of the most common pathologies listed and have students discuss their treatment

plans. Discuss the current research that relates to their treatment plans. Would it change their clinical approach to their client or patient? How would they try to apply what is in the research article to create the best outcomes for their client or patient? Also, identify how combining these case studies together would strengthen the argument for an experimental research proposal. If their proposal was accepted for a research study, how could it benefit other massage therapists and the general public?

Part 4: Creating a Research Plan

As students become more comfortable with the purpose and application into daily practice of massage therapy, we must now, as instructors, create: research enthusiasts. This is what fosters them into understanding that as a massage therapy professional it is their responsibility, just as any other allied health care profession, to stay current with their research knowledge. At this point in their learning, you may see some students that will really become enthusiastic about the materials and witness their immersion into these concepts. These students have the drive and initiative to be case report writers, either as students or even later as massage therapists when they start their careers. However, the majority of your students will need the power of your suggestion and example in how to keep abreast of current research and its relevance to their daily practice.

The Massage Therapy Foundation makes this task easier for our profession by offering many resources that are relevant in the treatment room. Here is a list of resources available from the Foundation's website primarily under the Resources tab that are free to everyone for their use.

- **Infographics:** These are simple summaries of recent research. Students and therapists can download the versions they choose, print them out for use in their practices with clients, or use the link to the actual research article in its entirety.
- **Podcasts:** Don't like to read? Listen to the short 20 to 30 minute Research Perch podcasts, which highlight the latest research on relevant topics such as pain management, massage for cancer patients, postural issues, migraines, and more.
- **Posters:** Many professional organizations allow for researchers to participate in poster sessions, which you can sometimes access online. MTF provides links to the posters that were presented at AMTA National Conventions and our International Massage Therapy Research Conferences (IMTRC). These posters provide a pictorial synopsis of what occurred in a specific research study. It is often helpful to review these before reading a research article in its entirety.

- **Journal Subscription:** *The International Journal of Therapeutic Massage and Bodywork* is the Foundation's open-access research publication. Subscribe and get the latest updates delivered directly to your inbox.
- **Continuing Education Courses:** MTF offers courses online and at their research conferences to facilitate learning more about the latest developments in research and research literacy. PAGE 33
- **Case Report Contest:** Want to really inspire your students? Have them read winning student case reports to see what other students have been able to accomplish.

There are many other ways to stay on top of current research:

- Join a professional organization and read their publications. Most issues of *Massage Therapy Journal*, *Massage & Bodywork*, *Massage Magazine*, *Massage Today*, and other professional publications contain at least one article that summarizes a current published research study. Usually the article being reviewed is included in the references at the end of the magazine article.
- Use research as an excuse to socialize with peers after graduation from massage school. Plan a get together for coffee with the purpose of sharing research articles with and discussing their findings.
- Ask students to discuss ways in which they intend to stay current with research by having them create their own success plan for daily practice and beyond.

Assessments

Learning activities are provided in each section as a means of formally assessing your students as you work through each content area. To assess your students' learning transfer on becoming comfortable and involved with research, here are a few more summative assessments you can use:

- **Podcast Reflection Journal** — Have students download *Research Perch* podcasts from the Foundation's website, listen to the podcast and summarize what they learned about the research that was conducted. In a reflection journal, have them discuss what they understood or did not understand and what value the information provided to them as a massage therapist. Remember, there are no right or wrong answers here; it is just an exercise to get them to open their minds to resources and thinking about how to apply them to their practice.
- **Article Summary Assignment** — Provide the students with a selection of recent research case reports. Students should select 2 case report articles and read them in their entirety. As you read the research articles, think of answers to the following questions to create a reflection journal entry:

- Is the subject relevant to massage therapy practice? Why or why not?
- Is there a clear statement of clinical importance of the case? What is it?
- Do the authors provide good resources and references for the report?
- What are the strengths and weaknesses of the study?
- Could you replicate it with one of your clients? Why or why not?

This assignment can also be used with other types of research articles, such as randomized controlled trials, with some slight modifications. Refer to **Appendix A** for a demonstration.

- **Case Report Research Project** — One of the best ways to help students truly appreciate research is to have them attempt to create a case report themselves. However, it can be challenging to find a client that can be developed into a case report that is a suitable student project. One way to avoid this difficulty is to have students create a fictitious client who has a condition that they are interested in learning more about, and develop the basic framework of a case report. Another option is to have students choose a celebrity or professional athlete that has been openly reported in the media about a specific condition and use that information as the basis for a case study project. Have students create an outline for the case report first by breaking it down into sections:
 1. Hypothesis or research question to be explored.
 2. A list of keywords to help them find articles on the subject matter.
 3. Components of their literature review for their introduction section.
 4. Profile of the client and the methods intended to be used.
 5. Measurements of their data. How they will evaluate their outcomes?
 6. A general summary of what the anticipated outcomes could be if they had a real client to study.
 7. List of references of all resources found for the project.

Examples

If you need assistance with helping students work through research articles, refer to Dr. Martha Brown Menard's textbook (referenced below), specifically to page 179 where she lists critical evaluation questions. Another useful reference is the Trish Dryden and Christopher Moyer textbook (also referenced below), which contains an entire chapter devoted to research developments with common conditions and pathologies that massage therapists see in daily practice such as fibromyalgia, headaches, cancer pain, and scar tissue, among others. These are great resources to help you instructionally design research literacy into your school curricula. Also included are examples of assignment structures to assist you:

- Article Review Summary Assignment (**Appendix A**)
- Case Report Proposal Research Project (**Appendix B**)



Robin Anderson's Suggestions to Teachers

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Research does not need to be this ominous hurdle that seems impossible to understand. It should always be a part of us as allied health care professionals to make us the best massage therapists we can be for our clients and patients. As instructors, we must instill confidence in our students to boldly go into the research world with the mindset that it is a tool they need for successful practice just as learning to use the forearm in hands-on skills. This is another skill that involves critical thinking, which is equally as imperative to have in the massage therapist toolbox. When helping your students make research part of their toolbox, remind them about all the resources that are out there to help them. Not everyone is destined to become a researcher but one can certainly appreciate its value. Like a fine wine or gourmet meal, research is an acquired taste, but as an instructor you can make your students aware of what is available to them so when they do partake, they do so in a way that creates meaning and professional value.

References

Dryden, T & Moyer, CA, (2012). *Massage Therapy: Integrating Research and Practice*. Champaign, IL: Human Kinetics.

Menard, MB, (2011). *Making sense of research* (2nd Ed.). Toronto, ON: Curties-Overzet Publications.

SECTION SIX: YOUR FUTURE WITH MASSAGE THERAPY RESEARCH

By Robin Anderson, MEd, LMT, BCTMB, CEAS

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Learning Objectives

Upon completion of the section, instructors will be able to:

- teach students how to integrate research to support client session plans;
- teach students how to apply research findings to professional therapeutic and business practices in and out of the classroom, and
- demonstrate and model ways for to students to interact with the research community.

Topics in the Classroom

- How to apply research data from a recent article to a treatment plan.
- How to use research as a marketing tool in a variety of practice settings.
- How to incorporate Research Plan for future professional growth.
- Explore possibilities of involvement with research beyond the massage treatment room.
- Application in evidence-informed practice with clients in any setting
- The need to read current journals and articles to remain relevant and accurate
- Attending conferences to learn more and stay current
- Creating a case report, participating in a poster session
- Participating on a research team, interacting with a researcher

Lesson Planning

This section is based primarily on the last chapter of the Dryden and Moyer book (see references). In planning your lesson, the goals are to summarize what they have learned about research and what the “next steps” could be. Discuss the significant amount of massage therapy research done in the last 20 years, which is impressive, and what we now know as a result of these studies. Discuss and brainstorm what could be some of the limitations of increasing the amount of viable research for the massage therapy profession. Then, take a trip into the future with your students and explore the possibilities of what is yet to come. In summary, make sure to emphasize what they can do to support the efforts of future research and the elevation of their professionalism as massage therapists regardless of what kind of practice environment they work in. An outline of lecture content is provided (see **Appendix A**).

Activities

Some activities that would be engaging for students to consider the future of research include:

- **Open Discussion** (either in class or online)
 - Use a discussion starter such as the following: “What things could we learn about the effects of massage therapy that we do not know now?”
 - Have students consider recent discoveries in pain management and other efficacies of providing treatment for conditions such as fibromyalgia, arthritis, headaches, and pregnancy (as examples).
 - Discuss unexpected ways in which massage therapy research has improved people’s quality of life or benefited other professions.
- **Scavenger Hunt and Professional Plan**
 - Have students search the internet for resources to find and stay updated on research. Make sure they find some of these specific resources:
 - MTF website
 - Upcoming conventions and workshops (AMTA, IMTRC, ACIMH, NIH, San Diego Pain Summit, Fascia Congress)
 - NCBTMB website for research courses
 - Colleges and universities with research courses and degree course tracks (if there is interest)
 - Have students create a plan to attend future conferences, workshops, etc. to stay current on massage therapy research.
 - Have students identify ways to become involved in research projects and activities.
 - Have students subscribe to research sites/sources for regular updates.

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Assessments

The assessments below may help students understand the application of research.

- **Case Study Method**

Visit the *Meta-Analysis on Massage Therapy and Pain Database* (http://massagetherapyfoundation.org/massage-research/mt_and_pain_database/), a systematic review of 146 studies on the effects of massage therapy on pain management. Create a fictitious client that has one of the common pain conditions mentioned in the articles used in the study (e.g., low back pain). Write an evidence-informed treatment plan for your client using information found in the research articles.
- **Writing a Case Report or a Proposal for a Case Report**– Have students draft a case report using your guidance. If you have a student clinic, identify potential clients who might be willing to participate in your student’s project. Have the

student conduct the research, create a method for treatment, and determine how to measure the results. Can't find a real client to work on? Make up a fictitious client. Attached is a worksheet with an outline for the framework of a case report proposal (**Appendix B**).



Robin Anderson's Suggestions to Teachers

Some of the biggest distractors for students about research are reading comprehension of the articles themselves and not having confidence in their writing abilities. What many students do not realize is that not every researcher was polished with their skills right from the start. In fact, many scholars and researchers were not necessarily the best students in school when they first started.

Let students know that being able to use these critical thinking skills is so beneficial to their future careers and sets them up for the changes yet to come in our profession. They will not have the benefit of you as their instructor to tell them what has changed in the profession, so it is up to them, as responsible professional massage therapists, to stay current on the latest research. You want your regular primary care doctor to know about the newest information on medications and other treatments, right? We are no different.

References

Dryden, T & Moyer, CA, (2012). *Massage therapy: Integrating research and practice*. Champaign, IL: Human Kinetics.

Menard, MB, (2011). *Making sense of research. Second edition*. Toronto, ON: Curties-Overzet Publications.

APPENDIX A: ARTICLE REVIEW SUMMARY ASSIGNMENT

Objectives:

1. Students will demonstrate ability to find and identify a specific type of research article through recommended search methods in library databases and internet sources.
2. Students will be able to comprehend and summarize the article selected and interpret the findings.
3. Students will be able to analyze the article and make valid observations regarding the research presented in the article.

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Assignment Sample

Find a massage therapy or related bodywork research article that utilizes the randomized clinical/controlled trial model as its study structure. Articles must be submitted via email for instructor approval within 7 days. Once your article is selected and approved, complete a summary report using the following guidelines:

- Minimum of 3 pages in length, no more than 5 pages, not including the title/cover page or references pages
- Include your observations about the article itself (i.e., interest in the elements studied, flaws in the study, techniques used). It should be detailed.
- Use the Article Analysis Guide to help you construct your written summary.
- As with all written reports, all references and formatting must be in APA format with proper citations.
- The written report is due on _____
Submit via _____ (electronically, in-class, etc.)

Important Due Dates

Research Article Selection for Approval

Due date: _____

Submit PDF file of article via email to the instructor for approval

Written Summary Report

Due date: _____

Submit via BlackBoard

APPENDIX B: CASE REPORT PROPOSAL RESEARCH

Objectives:

1. Student will demonstrate the ability to find peer-reviewed clinical research in massage therapy from a variety of database and internet sources.
2. Student will create a condition specific massage approach based on clinical research evidence. (Evidence informed practice)
3. Student will identify appropriate validated measurement tools for use in assessment to determine proposed outcomes.

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Complete Research Proposal Paper Due: _____

In-Class Roundtable Discussion Date: _____

Possible Grading Scale

This project is worth a total of **250 points** toward your overall grade. The written report (*worth up to 225 points, including preliminary work*) must be a minimum of five (5) pages typed, double-spaced, and no larger than 12 pt type in Times New Roman font, following proper APA 6th Edition guidelines. An additional 25 points is attributed to participation in the in-class roundtable discussion at the end of the semester.

Assignment

Select a client (or use a fictitious one) with a specific condition that may benefit from massage therapy intervention. Write a research paper outlining how you would set up a single client prospective case report proposal. Chapter 9, p. 331 of *Making Sense of Research* (2nd Ed,) has an outline of the steps to follow. This paper will follow Steps 1-5 only. You may also take a look at pp. 233-239 of the *Massage Therapy: Integrating Research and Practice* text for reference as well. You will not be performing the actual hands-on massage work this semester; however, if this is something that interests you, please feel free to consult with your instructor for guidance on what you can do to build upon your work.

Preliminary Work

1. Outline Assignment (submitted on Bb) has been set up so that you can provide the basic framework of your project for review and feedback.
2. Attend a one-on-one consultation session with your instructor outside of class. This is your opportunity to ask any questions you may have and to obtain suggestions that can improve your final project.
3. In order to receive full points for the Preliminary Work, you must submit your outline on time, showing notable progress on your research to date and attend your session with your instructor.

Sample Grading Rubric:

1. **Timely completion of Preliminary Work and attending Consultation Session – Total of 75 points.** Requires written submission of hypothesis/objective statement, outline of condition overview and

background, possible methods and data collection, and a list of a minimum of 8 scholarly references.

2. **Abstract** (*hypothesis/objective statement and info*) – **20 points**
3. **Introduction** (*literature review and background – whys of the study*) – **50 points**
4. **Methods and Procedures** (*client description, what tools, measurement data, how long, who etc.*) – **40 points** PAGE 41
5. **Summary** (*wrap up of projected outcomes for the study and future research directions*) – **15 points**
6. **References and Formatting** – Fully complete a sufficient listing of all references for this paper in proper APA formatting. **A minimum of 8 scholarly references is required.** (*Include references on the disease process/disorder, other studies, measurement tools, conventional treatment studies etc.*). - **15 points**
7. **Roundtable Discussion** – Requires you to share your case report proposal with the class at the end of semester discussing your research process and findings. – **25 points**

Total Points Available for the timely completion of Preliminary Work and Consultation: 75 points

Total Points Available for the timely submission of Written Case Report Proposal Paper: 150 points

Total Points Available for Roundtable Discussion presentation at the end of the Semester: 25 points

TOTAL PROJECT POINTS: 250 points

Preliminary Work Outline: Due _____ submitted on Bb. Consultation meeting scheduled individually during the week of _____.

Your Preliminary Work Outline/Draft should have the following items:

- 1) A hypothesis/objective statement for your case study stating the outcomes and interventions. For example: “The purpose of this case study is to investigate the effects of weekly one hour Swedish relaxation massages on the quality and quantity of sleep in a client with stress-related insomnia.”
- 2) A list of search keywords and topics used to guide your literature search.
- 3) An outline/draft of the introduction portion of your case report including:
 - a) Explanation of the logic (rationale) of your hypothesis:
 - **WHAT** is your pathology/condition, is caused by/treated by/has these characteristics and issues (i.e. its manifestation in general yet specific terms and typical treatments currently used)

- **IF** massage therapy effects have been shown to change the cause/treatment/characteristics and issues of the above and what about other similar integrative health modalities (i.e. physical therapy, acupuncture, cupping)
 - **THEN** state your research question or intended hypothesis with anticipated outcomes.
- b)** All of the above need proper citation support from your literature search – remember, a minimum of 8 references is required.
- 4)** An outline/draft of the methods portion of your case report proposal including;
- a)** a detailed description of interventions and how often and how long the study will last (frequency and duration);
 - b)** a detailed description of the data to be gathered including when and how often it will be measured, who will do the measurements, measurement tools to be used, and how data will be analyzed.
- 5)** An outline/draft of the summary portion should include:
- a)** General statement of what you anticipate the study would show if you had actually treated this client;
 - b)** any consents that would be needed (from client, from measurement tools etc.);
 - c)** any variables or bias that might confound the results/outcomes, and
 - d)** what future research on this subject might be considered.
- 6)** List of 8 or more scholarly references in proper APA format. Your program textbooks do not count as references though you may use them to help guide your research process.

FINAL CASE STUDY PROPOSAL PAPER IS DUE: _____
(Submit on BlackBoard via Safe Assign)

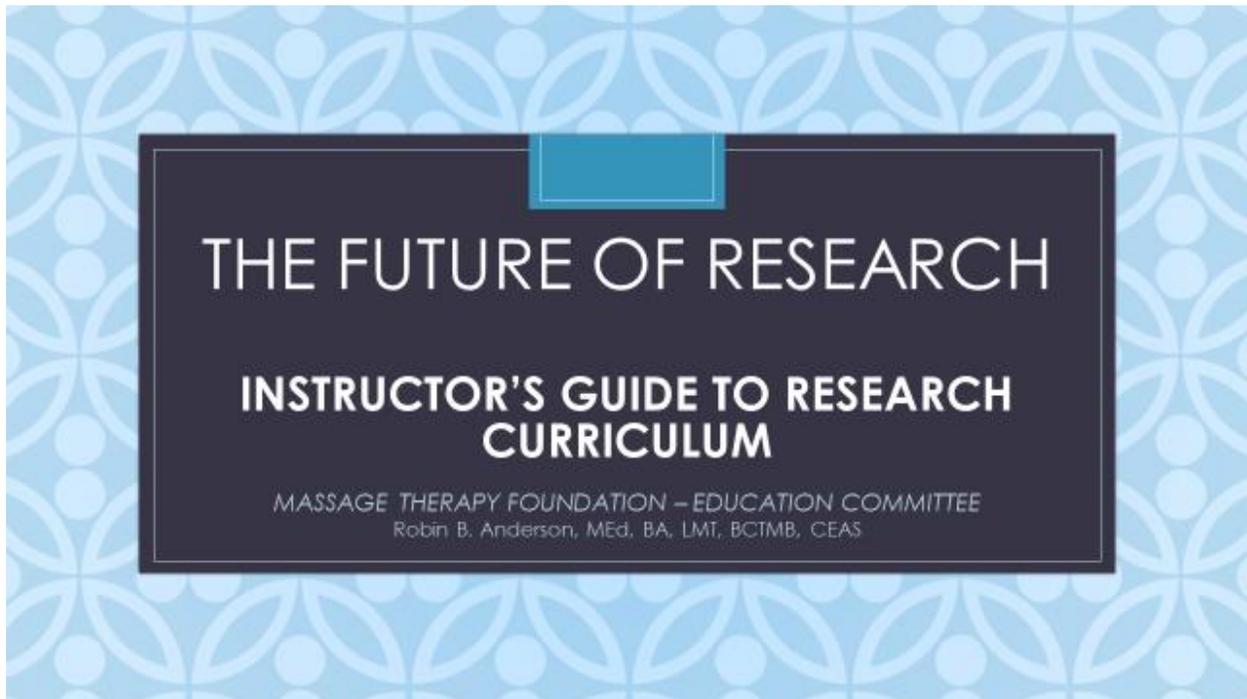
APPENDIX C: EBOOK SECTION SLIDES

Download the following slideshow for presentation by clicking the link below:

http://massagetherapyfoundation.org/wp-content/uploads/09_Appendix-C_Ebook-Section-Slides-In-the-Future-and-Integrating-Research-into-Practice-RBA.pptx

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Slide 1:



Slide 2:



Where are we
now?

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Slide 3:



Evaluation of MT Research

- Established findings –
 - *effects, mechanisms, processes already known*
- Needed research –
 - *ones that are not known*
- Methodological strengths–
 - *good scientific processes to demonstrate results*
- Methodological weaknesses and limitations –
 - *which ones were not so good*
- Conclusions –
 - *what have we done over the last 20 years and where do we go to move forward*

Slide 4:

Quantity of Research

- Significant increases in performed studies from approximately 1998 to 2008
- Mostly in the subcategories of Medicine, Pharmacology, and Veterinary Science (MPV) and Social Sciences, Arts, and Humanities (SAH)
- Close to 6000 studies have been completed
- Still in infancy in relation to other healthcare fields

Slide 5:

What do we know now?

- Effect on mood
- Reduction of MS pain including LBP
- Anxiety reduction
- Arthritis
- Amelioration of the effects of cancer treatment
- Stress reduction
- Increase oxytocin



Slide 6:

Recommendations for Scope of Research

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1. Build a research infrastructure within the massage therapy profession
2. Fund research into the safety and efficacy of massage therapy
3. Fund studies which demonstrate physiological effects are attributed to massage therapy
4. Stem from a wellness paradigm
5. Study the profession itself and what makes a skilled massage therapist that contributes to a positive therapeutic encounter

Slide 7:

What do we need to know?

- Multidimensional studies showing different outcomes
- Formal definition of MT itself
- Effects on brain activity
- Formal definition of the MT profession
- Body awareness as a measurable outcome
 - *Enhanced proprioception*
 - *Improved body image*
 - *Reduction of dissociation*
- "Dosages" for treatment planning and the nature of the therapeutic encounter
- MT Effect on medication uptake
- The therapists themselves
 - *Physiological and psychological elements in a treatment session*
 - *Required training*
 - *Working conditions for optimal treatment*
 - *Career satisfaction*
- Education and training

Slide 8:

What is holding us back?

- Lack of universal standards in the profession itself
 - *Therapeutic setting*
 - *Education*
 - *Regulation of scope of practice*
- Comparison or control to MT in research
 - *To another form of treatment*
 - *To no treatment at all*
 - *PLACEBO*
 - *DOUBLE BLINDING*
- Restriction in range of outcomes
- Reduction overemphasized in terms of ecological validity
 - *How it is done in real life vs. a research setting*
- Lack of research literacy among massage therapists
- Methods drive the research questions
 - *Other way around makes for better research*
- Confusion within and between groups being studied

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Slide 9:

Where do you see the future of massage therapy research going?

Dryden &
Moyer,
pp. 224 - 227
Case Example in the Book

Slide 10:

Future Directions

- Bridge the disconnect between researchers and MT clinicians
- Improve upon protocol descriptions with clearly defined terminology and some specificity
- Acquiring needed funding by writing clear and well organized grant applications
- MT in integrative health care – in the midst of an identity crisis
- Cost-effectiveness of MT treatment
- Longitudinal MT studies
- Assessing the therapeutic encounter/treatment session, creating some standards
 - *Documentation*
 - *Expectations of the patient*
 - *Typical testing or requirements of the therapist*
- We are not alone! But we are in our infancy in terms of existence

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Slide 11:

What can YOU do?



- Use *Evidence-Informed Practice* model until *Evidence-Based Practice* evolves
- KEEP READING and stay current
- Advocate for your profession
- Expand your knowledge
- Interact with others – both peers and individuals from other health care professions

End of Slides

APPENDIX D: ABOUT THE AUTHORS AND EDITORS

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Gini Ohlson, BA serves as MTF Executive Director. Over 21 years with the Foundation, she has overseen tremendous growth, guiding MTF's launch of the *IJTM*, five International Massage Therapy Research Conferences, and many other granting and educational activities. Gini has a BA in Political Science and Journalism from Iowa State University and has presented at and written for a number of professional non-profit journals and continuing education programs.

ABOUT THE MASSAGE THERAPY FOUNDATION

The Massage Therapy Foundation is a 501(c)3 non-profit providing support to the massage therapy profession. Since 1990, MTF has provided over \$1 million in research grants studying the science behind therapeutic massage. The Foundation founded and publishes an open-access, peer-reviewed scientific journal and provides many educational resources for massage therapists, educators, and students. MTF provides community service grants to populations in need of therapeutic massage who would otherwise lack access.

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