Optimizing Your Capstone Experience

A Guidebook for Allied Health Professionals

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Open Touro

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EDUCATION/TRAINING:

Institution	Location	Degree	Dates	Field of Study
Nassau Community College	Garden City, NY	AS	09/ 1982-06/ 1985	Business/ Accounting
New York Institute of Technology	Old Westbury, NY	BSOT	09/ 1997-05/ 2001	Occupational Therapy
Central Michigan University	Mount Pleasant, MI	MSA	09/ 2002-05/ 2004	Healthcare Administration
Chatham University	Pittsburgh, PA	OTD	07/ 2016-12/ 2017	Post-Professional Occupational Therapy

1. Personal Statement

I have been the Occupational Therapy Academic Fieldwork Coordinator and Associate Professor at Touro University, NY, NY. I am a long-term care specialist and prior to my employment at Touro University, I worked in an OT supervisory capacity in Medicare/Medicaid skilled nursing facilities in the metro-New York area. My passion is to perform research and research utilization that can be used to expand and enhance Touro's OT academic program, and fieldwork opportunities that address underserved populations within the United States. To date, I have established fieldwork opportunities at

the Nassau County Juvenile Detention Center in Westbury, NY, which services at-risk, incarcerated youth, and Big Sandy Healthcare, which serves rural communities in the Appalachian Mountains of Eastern Kentucky. My interests include new student fieldwork program development and health literacy education for health care professionals, aspiring health care professional students, and other stakeholders in order to facilitate occupational justice across the lifespan. My previous research on health literacy has been recognized by the Agency for Healthcare Research and Quality (AHRQ), a division of the United States Department of Health and Human Services as an impact case study, as well as other prestigious academic and professional institutions. I wish to continue my health literacy research with Touro OT students to develop a health literacy workshop for all professional programs within Touro's School of Health Sciences. I believe that my extensive knowledge and experience with health literacy and health literacy program development for health care professionals and OT students qualify me to expand my health literacy research. Furthermore, I work hard to ensure my research is published as evidenced by my active participation in Touro scholarship activities and contributions to Touro Faculty Publications. As a healthcare professional and akin to AHRQ's philosophy, it is my inherent goal to improve the quality, safety, efficiency, and effectiveness of healthcare for all populations. I respectfully and sincerely request a grant to support this endeavor.

2. Positions and Employment

2004-2014: OTR/L Department Supervisor/Long-term Care Specialist: Grace Plaza, Great Neck, NY

2013-Present: OT Academic Fieldwork Coordinator and Assistant Professor, Touro University, BS/MSOT Program, NY, NY

2015-Present: Program Developer/Clinical Instructor: Touro University, Level II OT Psychosocial Fieldwork Program, Nassau County Juvenile Detention Center, Westbury, NY

2022-Present: OT Academic Fieldwork Coordinator and

Associate Professor, Touro University, BS/MSOT Program, NY, NY

2022-Present: Associate Professor, Touro University, Post-Professional OTD Program, New York, NY

3. Other Experience

2013-2020: Founder/Coordinator: Touro College Intergenerational Service-Learning Programs: JASA: The Nazi Victim Program; The New Jewish Home: Scribe Program

2013-Present: Member, Touro College OT/ School of Health Sciences Continuing Education for Fieldwork Supervisors Committee

2013-Present: Member, The Metropolitan Occupational Therapy Council-NY/NJ (MOTEC)

2014-Present: Facilitator, Touro College, School of Health Sciences, Interprofessional Education Symposium: Understanding the Interprofessional Healthcare Team

2015: Co-Presenter, *Poster Presentation: Population-Based Occupational Therapy,* The American Occupational Therapy Association, 2015 Annual Conference, Nashville, TN

2016-Present: Executive Board Member, Alpha Eta National Allied Health Honor Society, Chapter 83, Touro College

2016-2018: Founder/Coordinator, Touro College Occupational Therapy Program Level I Fieldwork Program: Big Sandy Healthcare, Prestonburg, KY

2018: Touro College OT Program Representative/Participant, Backstretch Employees Service Team (BEST) Annual Health Fair, Belmont Racetrack, Elmont, NY

2019: Co-developer/Co-producer: *Video: Discover the Superhero in You: Become a Clinical Fieldwork Supervisor,* The American Occupational Therapy Association 2019 Annual Conference, New Orleans, LA

4. Professional Memberships

2001-Present: Member, The American Occupational Therapy Association (AOTA)

2001-Present: Member, The New York State Occupational Therapy Association (NYSOTA)

2001-Present: Member, The New York Medical Reserve Corps

2001-Present: Member, Nu Upsilon Tau Honor Society

2001-Present: Member, Pi Epsilon Tau

2015-Present: Member, Alpha Eta Honor Society

5. Honors

2017: Touro College 2017 OT Clinician Award

2018: New York State Occupational Therapy Association's Merit Award for Practice

6. Contributions to Science

The focus of the majority of my publications addresses limited health literacy, health literacy universal precautions, and their impact on client-centered care and program development initiatives

1. "Virtual Health Promotion: Fieldwork Placement Experiences During a Global Pandemic and Beyond." World Federation of Occupational Therapy (WFOT). Coauthors: M. Buccina, D. Cullinane, S. Dapice-Wong, J. Kardachi, S. Leiser, R. Purohit, August 2022
2. Collins, T., Koenig, V. E., Wong, S. J., Buccinna, M., Purohit, R. B., Leiser, S. K., & Cullinane, D. (2022). Community-Based OT Program Planning: A Virtual Level II Fieldwork Program Developed in Response to the Global Pandemic. *Journal of Occupational Therapy Education, 6* (3). Retrieved from https://encompass.eku.edu/jote/vol6/iss3/18Koenig, V.E. (2021) Development and Implementation of a Viable Level II Occupational Therapy Fieldwork Program in a Juvenile Justice Setting, *Annals of International Occupational Therapy, 4 (1), 44-52,* https://doi.org/10.3928/24761222-20200923-02
3. May 2019: Columbia University, New York, NY, Dr. Janet Falk-Kessler (JFK) Distinguished Lectureship and Day of Scholarship, *Oral Presentation: Health Literacy Universal*

Precautions in OT Practice

4. The New York State Occupational Therapy Association's 2019 Annual Conference, Palisades, NY, *Poster Presentation: A Health Literacy Universal Precautions Workshop for OT Students*
5. Koenig, V. E., & Provident, I. M. (2019). Workshop series for occupational therapists using the US Agency for Healthcare Research and Quality's Health Literacy Universal Precautions Toolkit and other supported tools. *Health Education Journal*, 78(4), 451–463. https://doi.org/10.1177/0017896918820067
6. Koenig, V.E. (2018) Health literacy: Pure and simple, *Annals of Physiotherapy & Occupational Therapy, 1*(2): 000109
7. Koenig, V.E. (2019) Health Literacy: A Universal Call to Action, *Journal of Psychology and Mental Health Care,* Doi: 10.31579/ 2637-8892.19/011
8. U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality: Impact Case Study, August 2018: AHRQ Toolkit Helps Connecticut Rehab Center Boost Health Literacy Skillshttps://www.ahrq.gov/news/newsroom/case-studies/201805.html?utm_source=2018-05&utm_medium=en&utm_term=&utm_content=20&utm_campaign=ahrq_ics_2018
9. U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality, NewsNow Newsletter, Issue 27, August 21, 2018: Featured Impact Case Study: AHRQ Toolkit Helps Connecticut Rehab Center Boost Health Literacy Skillshttps://www.ahrq.gov/news/newsletters/e-newsletter/627.html
10. The American Occupational Therapy Association's 2018 Annual Conference, Salt Lake City, Utah, *Poster Presentation: A Health Literacy Workshop for Occupational Therapists Incorporating Elements of theUniversal Precautions Toolkit*

11. The New York State Occupational Therapy Association's 2018 Annual Conference: Palisades, NY, *Oral Presentation: Designing a Framework for a Health Literacy Workshop Incorporating Elements of the Universal Precautions Toolkit*
12. May 2019: Columbia University, New York, NY, Dr. Janet Falk-Kessler (JFK) Distinguished Lectureship and Day of Scholarship, *Oral Presentation: Health Literacy Universal Precautions in OT Practice*

Undergraduate Research Proposal: *The Effectiveness of the Five-Stage Group Approach, a Component of Sensory Integration, as an Occupational Therapy Intervention for Persons with Dementia*

Graduate Thesis: *Credentials and Skills Essential for Job Satisfaction, Security and Marketability of Allied Health Professionals in Physical Medicine and Rehabilitation Settings*

Doctoral Evidence-Based Capstone Project: A Health Literacy Workshop for Occupational Therapists Incorporating Elements of the Universal Precautions Toolkit

Post-Doctoral Research: Collaborative Evidence-Based Research Project: *A Health Literacy Workshop for Occupational Therapy Students*

Post-Doctoral Research: Collaborative Evidence-Based Research Project: A Health Literacy Universal Precautions Workshop for Touro College, School of Health Sciences Students (in process)

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"*A library outranks any other one thing a community can do to benefit its people. It is a never failing spring in the desert.*"
— Andrew Carnegie

Preface

When I was asked to develop this guidebook by my well-respected peers at Touro University, I experienced similar emotions to those I felt while on my capstone journey during my OTD studies several years ago: anxiety, excitement, uncertainty, confusion, patience, and eventually, passion and self-awareness. I utilized what I consider my most powerful characteristic trait, tenacity, to put this project into motion and to make it a reality. Although capstone projects related to allied health professional programs are typically defined as self-directed final-year projects that focus on evidence-based practice in a specific context, they really should be considered the beginning of professional and personal development on a meta-cognitive level.

This guidebook is designed for you, the student. Each chapter in this guidebook provides you with useful information, tools, and examples that will support you before, during, and after your capstone journey. I encourage you to reflect on the material and key ideas presented in each chapter so you can understand and appreciate the multitude of possibilities that capstone projects have to offer. Above all, this is your capstone journey. Using your ideas along with the knowledge and skills you have developed and refined throughout your doctoral studies, you can shape the kind of project you wish to undertake, and make your capstone journey uniquely yours. This guidebook was created to help you bring your capstone journey to life in ways that are important and meaningful to you. Naturally, this journey will help to advance the quality and recognition of evidence-based practice in a variety of healthcare arenas, which will increase the richness of your capstone experience, both personally and professionally. Embrace it!

1. Pre-Planning for Your Capstone Project

Learning Objectives

By the end of this chapter, you will be able to:

- Explain the capstone experience.
- Identify soft skills that can be developed/refined throughout the capstone experience.
- Describe the importance of capstone projects for academic and professional career development.
- Identify at least two steps you can take to pre-plan/prepare for your capstone project.

Overview

This chapter will guide you through the pre-planning phase of your capstone experience. Examples of capstone formats utilized by various schools and universities are included in this chapter. General educational goals of capstone projects are reviewed and the importance of a capstone experience for academic and professional career advancement is discussed. Strategies that can help you prepare for your capstone experience are explained.

Introduction

The amount of stress that accumulates over the course of one's college experience can be overwhelming. Understanding what a capstone project entails and using strategies and skills that have been acquired throughout your academic career, will help you pre-plan for relevant and meaningful capstone experiences, while reducing stress.

What Exactly Is a Capstone Project?

A capstone project is a multifaceted assignment for professional students that serves as a culminating academic and intellectual experience. Therefore, capstone projects can also be referred to as capstone

experiences, culminating projects, or senior exhibitions. Capstone projects usually occur in the final year of professional academic programs and they may or may not be research based. Constructed by your school, your professional program within your school or university, and learning experience, capstone projects can take a variety of forms (Refer to Table 1-1: Examples of Capstone Project Formats). While capstone projects are in some ways like a college thesis, capstone projects are typically long-term investigative projects that culminate into a final product, presentation, and/or performance (Sabbot, 2016).

Table 1-1: Examples of Capstone Project Formats

• Designing or building a product, intervention, or program to address an identified need or problem
• Researching an industry or market, and creating a viable business plan for a proposed company that is then introduced to stakeholders
• A service-learning or community-based experience in which a professional student works with community members to put into action the skills and knowledge acquired over the course of their academic career
• A research-based experience that may be structured as the writing of a thesis

Source: Moore, J. L. (2021, December 2). *Capstone experiences*. Center for Engaged Learning. Retrieved July 15, 2022, from https://www.centerforengagedlearning.org/resources/capstone-experiences/

Within health professions, the clinical doctorate has been traditionally driven by innovation in practice and the advancement and evolution of the health profession's field. Furthermore, clinical doctorate degrees are meant to provide graduates with the skills necessary to engage in direct clinical practice and leadership endeavors, which may influence healthcare program development and policy changes. Simply, doctoral capstones provide accomplished students with an opportunity for in-depth professional practice within an area of focus (Kemp, Domina, Delbert, Rivera & Navarro-Walker, 2020).

Capstone projects have long been a hallmark of professional education. Capstone projects aim to help you recognize your own growth and development during your scholarly pursuits.

Capstone projects are also an effective method of showcasing attained and refined skills and competencies (Moore, 2021). Furthermore, capstone projects are designed to encourage you to think critically, solve challenging problems, and showcase *hard* and unique *soft* skills. (Refer to Table 1-2: Examples of Hard Skills and Soft Skills for Clinical Professionals and Professional Students)

Table 1-2: Examples of Hard Skills and Soft Skills for Clinical Professionals and Professional Students

Hard Skills *Job-specific abilities or knowledge learned through education, hands-on experience, or training.*	**Soft Skills** *Character and personality traits. Interpersonal skills that are used daily.*
Medical, neurological, pediatric, and anatomical experience	Organization
Verbal communication skills	Flexibility
Written communication skills	Empathy
Technological skills	Problem Solving
Research skills	Collaboration
Grant writing	Leadership
Healthcare-related licenses	Conflict Resolution
Certificates, awards, badges and industry-recognized credentials	Time Management

Sources: Benz, C., Johns, S., & Team, the R. G. (2022, February 18). *What are hard skills?* definition & 51 hard skills examples. Resume Genius. Retrieved July 16, 2022, from https://resumegenius.com/blog/resume-help/hard-skills; Coombe, T. (2021, February 25). *Soft & Hard Skills for occupational therapy students: How to get them.* EduMed. Retrieved July 16, 2022, from https://www.edumed.org/online-schools/occupational-therapyprograms/studentskills/; and

Kohler, C. (2021, December 17). *What are soft skills? here's how to showcase them on your resume*. TopResume. Retrieved July 16, 2022, from https://www.topresume.com/career-advice/soft-skills-and-how-to-showcase-them-on-resume.

Educational Goals for Capstone Projects

Capstone experiences within some schools and universities are designed to provide students with opportunities to become engaged in some aspect of clinical practice. Consequently, educational institutions will typically have their own capstone-specific goals. Even within a single school or university, the range of capstone-related goals and expectations can differ from program to program. For these reasons, it is important to review your specific program's capstone project requirements and capstone syllabi. By recognizing the general educational goals of capstone projects, you will acquire a better understanding of the capstone process and how it can be used for professional development not only throughout but beyond your academic career (Sabbot, 2016). (Refer to Table 1-3: General Educational Goals of Capstone Projects).

Table 1-3: General Educational Goals of Capstone Projects

• Increasing academic rigor
• Increasing student motivation and engagement
• Increasing educational and career aspiration
• Improving student confidence and self-perception
• Demonstrating learning and proficiency

Source: Moore, J. L. (2021, December 2). *Capstone experiences*. Center for Engaged Learning. Retrieved July 15, 2022, from https://www.centerforengagedlearning.org/resources/capstone-experiences/.

Importance of Capstone Projects

Clinical doctoral programs are rigorous and demanding practice-focused programs that are designed to prepare students to become experts in clinical practice settings. In this vein, capstone projects are heavily focused on innovative and evidence-based practices that not only reflect your ability to transfer didactic knowledge and research findings into a practice setting but to also evaluate and disseminate new knowledge to advance evidence-based care (Anderson, Knestrick & Barroso, 2015). For example, in a school or university students are continually working on theoretical assignments, which allows them to acquire basic knowledge that supports

their career path. However, the capstone project extends beyond textbooks and classrooms as you begin to become immersed in real-world cases in real-life environments. Capstone projects can help you to become familiar with some of the issues professionals in your chosen area of study and/or interest may commonly face in the field. Consequently, the experiential learning you will gain from your capstone experience is invaluable in relation to your entry into, and advancement in, your respective profession (Russel, 2022).

Capstone projects are considered scholarly pieces of work. The intent of capstone projects is to create an effective and comprehensive *product* that will provide you with an opportunity to showcase your academic abilities, skills, and competencies. In this fashion, capstone projects can be viewed as a springboard for career advancement or an entrepreneurial venture. By taking a few steps to understand and prepare for your capstone experience, you will be able to effectively integrate learned knowledge into a real-world issue in a manner that is purposeful, meaningful, and marketable (Refer to Table 1.4: Preplanning Strategies Students Can Use for Meaningful Capstone Experiences).

Table 1.4: Preplanning Strategies Students Can Use for Meaningful Capstone Experiences

- **Update your Curriculum Vitae (CV): a document used by job applicants to showcase academic and professional accomplishments and/or Resume: a formal document that a job applicant creates to itemize their qualifications for a position**
    - Make sure your CV/Resume is up to date. It is okay to enter your capstone project on your CV/Resume, even if it is not yet completed because it shows your hands-on experience with specific skills

- **Prepare your Biographical Sketch (an abbreviated picture of your professional life, which is used to highlight your major achievements)**
    - The information contained in your Biographical Sketch can be used for cover letters, business, and grant proposals, based on purpose *(Refer to Author's Biographical Sketch)*

- **Review Capstone Projects of Previous Students Within Your Academic Program**
    - This will help to familiarize you with the general format of capstone project within your academic program and provide you with some ideas/topics for your upcoming capstone project

- **Review your Capstone Courses Syllabi**
    - This will help you gain knowledge of what is expected of you throughout the capstone process

- **Meet with your Capstone Course(s) Instructor(s)**
    - It is important to develop relationships with your professors early on and to be sure that you understand capstone-related assignments and to get help if you are having trouble

- **Meet with Your Mentor**
  - Mentors can provide experience-based knowledge that will help you grow and develop both personally and professionally

- **Cultivate a Spirit of Inquiry**
  - A spirit of inquiry will empower you to challenge current practices, develop new ideas, design innovative interventions or solutions to problems, and disseminate new information

- **Focus on a Topic/Area of Practice that You are Truly Interested In**
  - Choose a topic you are passionate about. Are there issues relevant to your workplace, classroom experience, or career goals that have spiked your interest?

- **Embrace and Own Your Capstone Project**
  - Capstone projects exemplify your dedication to an issue. This is your opportunity to make a meaningful relationship between theory and real-world matter. While a capstone project is usually the final assignment of your academic career, it is also a springboard for professional career advancement, entrepreneurship, and leadership opportunities

Conclusion

Understanding what a capstone project is and why it is an important component of academic and professional development will help you appreciate your capstone experience and maybe even enjoy it. This chapter provided you with tips and strategies that will help you preplan for your capstone project. The development of a meaningful and

robust capstone experience requires a demonstration of need coupled with a professional area of interest (Bednarski, Bell & DeAngelis, 2020). Preplanning can help ensure that your capstone project is relevant and impactful.

Case Study: Examples

Glynn is an occupational therapist, who currently works in a physical disability rehabilitation setting. Glynn is currently participating in a post-professional occupational therapy doctorate (OTD) program in an urban university setting. According to Glynn's OTD program, she will begin her capstone courses next semester. In order for Glynn to prepare for their upcoming capstone experience, they will do the following:

- Review their resume and update it, as necessary
- Update their biographical information
- Review the educational goals of capstone projects within their program of study (OTD)
- Review the format of capstone projects within their program of study (OTD)
- Begin to cultivate a spirit of inquiry
    - Self-reflect on their professional career and consider topics of interest that could be potential capstone projects
    - Glynn is taking an OTD course, which addresses health literacy initiatives for low-

health literate patients. Glynn is very intrigued with this topic and is considering this topic for their capstone project.

2. Initial Planning for Your Capstone Project

Learning Objectives

By the end of this chapter, you will be able to:

- Identify general considerations for capstone topic selection.
- Compare and contrast approaches to selecting a capstone topic.
- Discuss Stage 1 of literature scoping and its role in the capstone experience.

Overview

This chapter will take you through the initial planning phase of capstone projects by describing the importance of selecting a relevant and meaningful capstone topic. General considerations for capstone topic selection are provided. The three main approaches to capstone topic selection are discussed and examples of capstone topic approaches are given. The first stage of literature scoping and its relevance to capstone topic development is explained.

Introduction

An extremely important step in the development of developing of a good capstone project is selecting an interesting and relevant topic. As indicated in Chapter 1, an impressionable classroom or clinical experience along with a review of applicable journal articles can help you identify a potential capstone topic. Topics for capstone projects should facilitate the development of new knowledge and insights rather than merely providing an opportunity to recapitulate information that is already generally accepted in your chosen field of practice (Martiz, Thielman & Campolo, 2011). You can consider several approaches to capstone topic selection. An initial literature review can also help you identify topics of interest, narrow them down, and develop a focused clinical question that can be used to guide your capstone project. Because educational institutions and programs within educational institutions can differ in capstone requirements, it is important for you to meet with their capstone instructor(s), your mentor, and even your institution's librarians to brainstorm capstone project topic options and project requirements.

Selecting a Topic for Your Capstone Project

The capstone project is an opportunity for you to demonstrate mastery of a specific topic and its relationship to your chosen profession and area of interest. While each university and program within a school, may have different requirements, initial capstone planning includes selecting a topic of interest, which should be approved by the program and capstone instructors. Capstone projects are developed over several

weeks to months depending on the academic program; therefore, you should identify an area of interest that will keep you motivated for an extended period of time. Not only should a capstone topic be in an area of interest, but it should also cover a real scientific or practical issue.

When considering capstone topics, you should try not to think about topics that will require a great deal of theoretical information, complicated concepts, or detailed statistical analysis. Instead, reflect on the challenges you or stakeholders face on a regular basis. For example, is there an identified need at your workplace or within your chosen profession? You should also try to organize brainstorming sessions with your peers and write down ideas that can be incorporated into your capstone experience (Bertulino, 2022). It is also recommended that you begin thinking broadly about a topic and then start to narrow it down.

It is important to pursue a capstone experience that will hold your interest. For this reason, you may want to consider issues that are relevant in your workplace, a meaningful classroom experience, or even a topic that addresses your career goals and aspirations. It is important to keep in mind that a capstone topic should be manageable in size. If a topic is too broad, you will have difficulty covering all of the necessary material. Conversely, if a topic is too narrow, it may be difficult for you to find published material and meet project length requirements. It is paramount to be flexible when determining a capstone topic, have a few options in mind, and always check with your capstone instructor and other relevant faculty to ensure that your chosen topic will meet the capstone guidelines within your specific program of study (*Capstone & thesis research: Selecting & focusing your research topic*, 2022). (Refer to Table 2.1: Considerations for Capstone Topic Selection)

Table 2.1: Considerations for Capstone Topic Selection

Desire to gain experience in a particular field or with a specific technology
Desire to gain exposure to a specific organization for future employment opportunities
Previous knowledge, experience, or familiarity with a project or topic specifics
Being able to envision possible solutions an identified problem or need
Potential impact of your topic or project
Topic is personally relevant or important
Positive or negative social or ethical considerations
Desire to apply an evidence-based solution to a work-related issue, need, or problem
Desire to gain exposure to a specific organization for future employment opportunities
Desire to address a topic of interest noted in a textbook or journal article

Source: Hart, R. A., & Polk, T. W. (2017). An examination of the factors that influence students' capstone project choices. *International Journal of Engineering Education, 33*(5), 1422-1431.

Approaches to Selecting a Topic for Your Capstone Project

There are three main approaches to topic selection for capstone projects (Refer to Table 2.2: Capstone Topic Approaches and Examples).

1. Inward Deficit Approach

This method requires you to reflect on your own area of practice and identify some of the challenges and issues you may have experienced in your workplace. If

you are a student who has not had an opportunity to work within your intended practice setting, reflection on a course and course content that has sparked your interest can be something that can be explored further (Burke & Dempsey, 2022).

2. Outward Deficit Approach

This approach requires you to examine some of the issues your colleagues are experiencing in their practice setting or the gaps in the existing literature that relate to a practice setting or interest. The outward nature of this method of topic selection indicates that the capstone project does not aim to help you in your area of practice; rather, the purpose of an outward deficit approach to capstone topic selection is to help other professionals within their practice setting. Consequently, this approach can indirectly impact your own or intended area of practice (Burke & Dempsey, 2022).

3. Mixed Abundance Approach

This approach focuses on what is working in an area of practice instead of what is problematic and needs fixing. You can use this approach to review other people's practice (outward), your own area of practice or intended area of practice (inward), or as a mixed approach (inward-outward). This approach emphasizes that when a starting point for a capstone project focuses on what is going well, research may lead to more impactful outcomes rather than focusing on what is not going well (Burke & Dempsey, 2022).

Table 2:2: Capstone Topic Approaches and Examples

Approach	Summary	Example	Possible Topic
Inward Deficit	-Reflect on own practice (inward) and identify challenges and problems (deficits)	-I am finding it difficult to engage my patients during their outpatient occupational treatment sessions. They don't seem to engage as enthusiastically as I would like them to and they often question the purpose of occupational therapy. I would like to come up with a way of introducing occupational therapy that would make them feel more interested and engaged in their treatment sessions	-Patient education on occupational therapy in outpatient clinics

Outward Deficit	-Examine issues (deficits) colleagues are experiencing in their practice setting (outward) -Examine the gaps in literature (deficits) that you have read about in journal articles or books (outward) that relate to your area or intended area of practice	-I have searched journal articles and books and have determined that occupational therapy's role in community-based mental health settings is obscure	-The role of occupational therapy in community-based mental health settings
Mixed-Abundance			
Inward	What is good with you/your practice?	-One of my strengths is my ability to explain the benefits of occupation-based interventions to patients in the outpatient clinic where I work	-Using the American Occupational Therapy Association's Resources and Tools I would like to promote the benefits of occupation-based interventions into emerging practice settings

Outward	What is good with other professionals' practice?	-Evidence shows that explaining the purpose of occupational therapy in specific practice settings can improve patient engagement and interdisciplinary team collaboration	-You are interested in creating information sessions for interdisciplinary team members in various health care settings to increase awareness of occupational therapy
Mixed	What is good with your/your practice and other professional's practice?	-You have been chatting with your occupational therapy peers about the role of occupational therapy in emerging practice settings. You begin to reflect on the role of occupational therapy in emerging practice settings and would like to get more input from other occupational therapists	-As part of your research you would like to do an online survey to find out how other occupational therapists define the role of OT in emerging practice settings

Literature Scoping

There are two stages of engaging with literature during a capstone experience. The first stage of literature scoping will be addressed in this chapter, and the second will be addressed in the following chapter. The first step of engaging with literature entails a succinct literature review. A brief and focused literature review can help you identify a topic of interest for your capstone project. Many scholarly articles are accessible via open access. You can source scholarly articles via Google Scholar or ResearchGate, as well as other open-access platforms. Because open-access platforms are not exhaustive, it is useful to draw from some of the academic databases available through the library of your educational institution. Furthermore, your school or university's librarian can guide you toward the most suitable databases for your capstone topic and order articles that may not be readily accessible. Lastly, it is important to determine the information management technique required by your school or university and to establish

your own-note-taking method so you can best source your literature and engage with it critically. Effective information management can provide you with a great head start on a capstone project (Burke & Dempsey, 2022). Most importantly, you should keep an open mind. Because an interest or topic may have limited research within your profession, doesn't mean it cannot be done. It is important to also look for articles addressing your intended topic written by other professionals. This can provide you with a great opportunity to address an issue and expand on a concept that has been addressed in a complementary profession but not within your professional area of practice.

Conclusion

This chapter provided you with general considerations for capstone topic selection. The inward deficit, the outward deficit, and the mixed abundance approaches to capstone topic selection were reviewed. Stage 1 of literature scoping, a brief literature review, and its importance to capstone topic selection was explained. The initial planning of a capstone project: topic selection and Stage 1 of literature scoping, can help you to develop a sound clinical question. Initial planning will help you begin to develop a focused literature search strategy, which will assist you in determining whether evidence is or is not relevant to your capstone project (Bednarski et al., 2020).

Case Study: Initial Planning for Capstone Project

- Glynn is very intrigued with the topic of health literacy and is going to perform a brief literature review on this topic to investigate existing evidence related to this topic.
- A preliminary scope of the literature (Stage 1) indicates that a universal precautions approach to healthcare treatment sessions can improve patient care and outcomes (mixed abundance approach).
- Glynn will meet with her mentor and capstone instructor(s) to discuss and brainstorm this topic as a feasible capstone project option. If approved, Glynn will begin to work on a sound question to guide her capstone experience.

3. Constructing a Guiding Question

Learning Objectives

By the end of this chapter, you will be able to:

- Describe the process and importance of guiding-question development for research-based capstone projects.
- Incorporate the FINER approach into guiding question development.
- Explain the role of the Fundamental Four in guiding question development.
- Describe and Apply the PICOT approach to developing a specific question for your capstone projects.

Overview

This chapter introduces you to strategies and frameworks that can be used to construct a sound question to guide your capstone experience. The FINER approach to general question

development is presented followed by the Fundamental Four approach. Finally, the Problem, Intervention, Comparison, Outcome, and Time (PICOT) approach to specific capstone question development is illustrated. The tactics for question development introduced in this chapter will provide you with an initial basis for mutual understanding, communication, and direction for a meaningful and purposeful capstone project.

Introduction

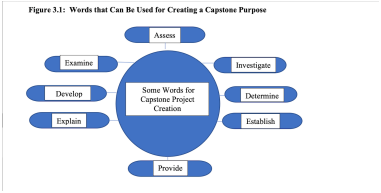
Good literature reviews begin with a clear, answerable question that addresses an important problem, identified need, or phenomenon of interest (Considine, Shaban, Fry & Curtis, 2017). The challenge in developing an appropriate question is in determining which professional practice uncertainties could or should be studied and rationalizing the need for their investigation.

Planning and Preparing for the Development of a Guiding Question(s) for Capstone Projects

Once a capstone topic has been selected, it is critical for you to develop a question that will support an efficient literature review (Stage 2). A preliminary scope of literature (Stage 1, Chapter Two) regarding a selected topic will help you construct a question that will inform the rest of the literature review for your capstone project. For a question to be effective and complement the design of a capstone project, its needs to be succinct. Additionally, guiding questions will vary in relation

to the purpose it serves. For example, the purpose of one capstone project may be to *describe* the experiences of participants, another may *explore* their experiences, while yet another may aim to *compare* participants' experiences. While all of them pertain to the participants' experience, what is being studied in regard to the experiences differs (Burke & Dempsey, 2022). Clarity about a capstone project's purpose can also help you develop a good guiding question (Refer to Figure 3-1: Words That Can Be Used for Creating a Capstone Purpose).

Figure 3.1: Words that Can Be Used for Creating a Capstone Purposes



Developing a General Question: The FINER Criteria

Once you have an approved topic for your capstone project, it is important to take the time to develop a high-quality guiding question. The FINER criteria highlight useful points that should be considered in general question development (Farrugia, Petrisor, Farrokhyar & Bhandari, 2010). (Refer to Table 3.1: The FINER Criteria).

Table 3.1: The FINER Criteria

F	Feasible	• Adequate number of participants • Adequate technical expertise to conduct project • Affordable in time and money • Can be completed in a reasonable time period
I	Interesting	• Results of capstone experience will be of interest to investigator, peers, stakeholders, and the research community
N	Novel	• Confirms, refutes, or extends previous findings
E	Ethical	• Risks to participants is low/acceptable. Considered ethical by stakeholders and Institutional Review Board (IRB), if applicable
R	Relevant	• Improves scientific knowledge, informs clinicians and health policy, and impacts future capstone initiatives and research

Sources: Farrugia, P., Petrisor, B. A., Farrokhyar, F., & Bhandari, M. (2010). Research questions,hypotheses and objectives. *Canadian journal of surgery*, *53*(4), 278; Patino, C. M., & Ferreira, J. C. (2016). Developing research questions that make a difference. *Jornal Brasileiro de Pneumologia*, *42*,403-403.

Developing a Question: The Fundamental Four

During the early stages of the capstone process, your guiding question may be broad in scope and subsequently difficult to answer. Therefore, considerable care and time should be spent refining problem, need, or phenomenon of interest so the question facilitates a rigorous and robust search of the literature, using key terms and phrases. Planning and preparing for the development of a guiding question for quality outcomes should address four fundamental questions (Considine, et al., 2017). (Refer to Table 3.2: The Fundamental Four for Informing Quality Research).

Table 3.2: The Fundamental Four for Informing Quality Research

1	What do we know?	• What has already been written about the topic of interest? • Has the topic of interest already been investigated? If so, by whom, when, and in what context? • Is this a new or emerging issue or need that has not been previously addressed?
2	What don't we know?	• Is there a gap in the literature that makes this a new problem, need, or issue? • Has the problem, need, or issue been investigated at a different time or in a different context?
3	What should we know?	• What is the specific gap that this capstone project and literature review going to address?
4	Why should we know it?	• Why is addressing this gap important for stakeholders? (Stakeholders: patients, families, clinicians, and the broader health system)

In the quest of designing a capstone project, it is crucial to invest time, energy, and resources into the construction of a guiding question before proceeding to the study design (Lopes, Hurtado-Puerto, Moreno, Fregni, Falcão & Amorim, 2016)

Transforming a General Question into a Specific Question: The PICOT Approach

Evidence-based practice proposes that clinical problems that emerge from care practice, teaching, or research can be broken down and organized using the PICOT strategy. PICOT represents an acronym for Population, Intervention, Comparison, Outcome, and Time. These components are essential elements of guiding question development in evidence-based practice and in the construction of a solid question (Santos, Pimenta & Nombre, 2007). (Refer to Table 3.3: Description of the PICOT Strategy). T

The PICOT approach will help you generate a specific question that aids in constructing the framework of your capstone project. The PICOT approach also aids in program protocol development by addressing the inclusion and exclusion criteria for the population involved in your study. Furthermore, identifying a specific population of interest, an intervention, and outcomes of interest can also help you identify and/or develop an appropriate outcome measurement tool (Farrugia, et al., 2010). It should be noted that not all PICOT questions will require a comparison. The decision to compare two interventions will be based on the needs of your facility and the nature of your capstone project. Additionally, not all questions will require a time period; however, it is important

to keep this aspect of your capstone project in mind while performing an extensive literature review and developing your program or intervention.

Table 3.3: Description of the PICOT Strategy

P	Population or Problem	• Represents the sample of subjects or the problem that
I	Intervention (Program)	• Represents the intervention of interest • The intervention of interest may apply to therapy, prevention, etiology, health, and wellness promotion
C	Comparison	• Represents what the main intervention will be compared to (*may or may not be applicable)*
O	Outcome(s)	• Represents the expected outcome
T	Time	• Represents the time period for data collection • What is the time period of the intervention within which outcomes will be measured?

By following the PICOT format an idea can be developed into a useful clinical question, which is the foundation for developing a comprehensive capstone project.

Conclusion

You do not have to be an epidemiologist or clinical research methodologist to develop a good guiding question. Most research questions for clinical practitioners start with an idea or observation that arises from daily practice, observation, or reading of published literature. The concept of evidence-based practice incorporates the routine of developing good clinical questions as part of day-to-day clinical or service management. Recognizing an area that requires additional study is the first step while developing the skills to clearly articulate a question that should be asked is the next step. Although it can be challenging and time-intensive to develop a guiding question, the strategies and approaches for constructing a guiding question included in this chapter will help you to develop and refine this skill. Once the skill of constructing clinical questions is acquired, evidence-based practice will become commonplace and the foundation on which to design a methodologically sound capstone project is established (Heddle, 2007).

Case Study: Constructing a Guiding Questions

- Glynn completed Stage 1 of her literature

review. During this literature review, Glynn became aware of a Health Literacy Universal Precautions Toolkit, which is an open-access resource provided to all health care professionals by the United States Department of Health and Human Services.

- Glynn's initial literature review also enlightened them to the fact that there is a gap in the literature regarding health literacy universal precautions and occupational therapy clinical practice. Glynn has again met with their mentor and capstone instructors, who initially approved the topic of health literacy, to discuss health literacy universal precautions and occupational therapy clinical practice as a topic for their capstone project. Glynn's mentor and instructors have approved this. Glynn will initiate their research-based capstone project by developing a guiding question.
- After reviewing the FINER and Fundamental Form Approaches to general guiding question development, Glynn was ready to apply the PICOT framework to create a specific guiding question.
- The following PIO question was approved by her mentor and capstone instructors:
    - Does a ***(I)*** health literacy universal precautions workshop for ***(P)*** occupational therapy practitioners ***(O)*** improve their working knowledge about health literacy, and increase their self-perceived ability to identify, assess and implement client-

centered interventions that optimize outcomes for low-health literate patients?

- The PIO question above will be the focus of Glynn's research-based capstone project. Glynn is ready to begin their comprehensive and thorough literature review to locate the most current research and information supporting their project.

4. Creating a Hypothesis for Research-Based Capstone Projects

Learning Objectives

By the end of this chapter, you will be able to:

1. Explain the purpose and importance of a hypothesis in a research-based capstone project.
2. Compare and contrast a null and alternate hypothesis.
3. Describe the relationship between hypotheses and statistical testing.
4. Explain the characteristics of a good hypothesis.
5. Describe the relationship between the hypothesis and research-based capstone project objectives.
6. Formulate a hypothesis.

Overview

This chapter first introduces you to the importance of developing a hypothesis for a research-based capstone project. The purpose of developing a hypothesis is explained and an example is provided. The characteristics of a good hypothesis are illustrated and strategies for formulating a hypothesis are addressed. Strategies for developing aims and objectives for a research-based capstone project and its relationship to the project's hypothesis are addressed. This chapter ends with a brief discussion of hypothesis testing and its correlation with data, statistical testing, and outcomes reporting.

Introduction

The development of a guiding question and supportive hypothesis is a necessary key step in any research-based capstone study. The research question and associated hypothesis are interlinked and will influence the study's design. Furthermore, the capstone project's primary objective should be coupled with the project's hypothesis. It is important for a research-based capstone project's objectives to focus on outcomes that are important to stakeholders and that are clinically relevant. Focusing resources, time, and dedication to the development of a relevant guiding question, hypothesis, and objectives will help to guide you through a successful research-based capstone project, influence the interpretation of the results, and impact future dissemination of information efforts (Farrugia, et al., 2009).

Hypotheses

A research hypothesis is the statement created by a researcher when they speculate upon the outcome of their research-based capstone project. Research-based capstone projects based on program design, development, and implementation that focus on an identified problem or need should also have a hypothesis. The hypothesis is fundamental to the completion of a research-based capstone project. Without a hypothesis, you will not have a comprehensive capstone experience because learned critical elements of the research process and capstone project conclusions may be limited in scope. Elements included in a good hypothesis include:

- Developing a succinct question based on a reasonable, logical, and relevant problem or need
- A scoping review of literature

The importance of the hypothesis is directly dependent on previously known facts, potential solutions, and expected results from the variables being analyzed. Consequently, the hypothesis becomes the center of a research-based capstone study, the data obtained, and the conclusions reached. With the data collected and reviewed, the hypothesis can be supported or not, based on the findings that have been gathered (Toledo, Flikkema & Toledo-Pereyra, 2011). (Refer to Table 4.1: Purpose and Importance of a Hypothesis).

Table 4.1: Purpose and Importance of a Hypothesis

• It provides a tentative explanation of occurrences and facilitates the extension of knowledge in that area
• It provides the investigator with a relational statement that is testable in a capstone project
• It provides direction to the research-based capstone project
• It provides a framework for reporting project conclusions
• It can be considered the working instrument of theory
• It can be tested and shown to be undoubtedly supported or not supported, apart from opinions

Source: Mourougan, S., & Sethuraman, K. (2017). Hypothesis development and testing. *IOSR Journal of Business and Management (IOSR-JBM)*, *9*(5), 34-40.

Formulating a Hypothesis

As we have discussed, capstone projects usually begin with the identification of a problem or need. Guiding questions, objectives, and a hypothesis provide a specific restatement of facts that may be tested for further review. Whether experimental or observational, a hypothesis spells out an anticipated relationship between independent and dependent variables. This relationship may or may not be true, which is why the research-based capstone project is being conducted (Malhotra, 2013). A starting point for formulating a hypothesis is establishing a null hypothesis on the basis that the relationship between two or more variables is independent. A null hypothesis assumes that there is no difference between participants in relation to their attitude, knowledge, personality, or any other variables that are being tested within a research-based capstone project. Ultimately the objective of carrying out statistical tests is to accept the null hypothesis or reject it. A rejected null hypothesis means that a change post-intervention occurred and that there **is** indeed a difference or a relationship between variables. This is also referred to as the alternate hypothesis. Therefore, it is important to consider the null hypothesis and alternate hypothesis when developing a research-based capstone project (Burke & Dempsey, 2022). Consequently, when formally testing statistical significance, the hypothesis should be stated as a null hypothesis. (Refer to Table 4.2: Alternate Hypothesis and Null Hypothesis Example)

Variables

Variables are measurements that are identified within a research-based capstone project. Variables characterize a concept, or factor, that can have more than one value. Consequently, a factor becomes a variable by virtue of how it is used within a research-based capstone project. Basically , there are two types of variables:

Independent Variable: An independent variable is also referred to as a predictor variable. It is a condition, intervention, or characteristic that will predict or cause a given outcome

Dependent Variable: *A* dependent variable is also referred to as an outcome variable. It is a response or effect that is presumed to vary depending on the independent variable

Table 4.2: Alternate Hypothesis and Null Hypothesis Example

Research Question in PIO Format

P: Older adults over the age of 65 in independent residential settings
I: Telehealth OT sessions focusing on fall prevention using a narrative learning approach to home safety
O: Reduced fear and risk of falling
T: 6 web-based 45 minute sessions

Variables

Independent Variable: Telehealth OT sessions focusing on fall prevention using a narrative approach to home safety
Dependent Variable: Risk of falling and Fear of Falling

Null Hypothesis

Older adults aged 65 or older that participate in a telehealth OT fall prevention program that
uses a narrative learning approach to home safety do not decrease their risk of and fear of falling

Alternate Hypothesis

Older adults aged 65 or older that participate in a telehealth OT fall prevention program that uses a
narrative learning approach to home safety will decrease their risk and fear of falling.

A well-grounded hypothesis indicates that the researcher has sufficient knowledge in a specific area to undertake a research-based capstone project. Furthermore, a well-grounded hypothesis gives direction to the collection and interpretation of data (Mourougan & Sethuraman, 2017).

Characteristics of a Good Hypothesis

A good hypothesis is based on a good guiding question (refer to Chapter 3). The hypothesis is developed from the guiding question and also from the main elements of a research-based capstone project: sampling strategy, intervention, comparison (if applicable), and outcomes. Simply, the main elements of a research-based capstone project are summarized in a form that establishes the basis for testing, statistical, and ultimately clinical significance (Refer to Table 4.3: Characteristics of a Good Hypothesis).

Table 4.3: Characteristics of Good Hypothesis

· Hypotheses should be simple, straightforward, specific, and stated in advance
· Hypotheses should have the ability to explain the subject matter effectively to which it pertains (also referred to as explanatory power)
· Hypotheses must express the expected relationship between variables
· Hypotheses must be testable
· Hypotheses should be uniform with the existing body of knowledge
· Hypotheses should be stated as simply and as succinctly as possible

Source: Mourougan, S., & Sethuraman, K. (2017). Hypothesis development and testing. *IOSR Journal of Business and Management (IOSR-JBM)*, *9*(5), 34-40.

Drafting an Objective(s) for a Research-based Capstone or Capstone Project

While penning down your capstone topic, PICO question, and hypothesis can be a great deal of time and effort, drafting study objectives can be viewed as an extension of your research-based capstone project's hypothesis. The study objective(s) define the specific aims of the project and should be clearly stated in the introduction of the research-based capstone or capstone protocol. Furthermore, study objectives are active statements about how a capstone project is going to answer the specific guiding question by indicating the overall nature and scope of the capstone project (Farrugia, et al., 2010; Malhotra, 2013).

The initial capstone journey that one navigates is typically comprised of scoping the literature (phase 1), conceptualizing a guiding question, formulating a hypothesis (in the case of a research-based capstone project), and drafting project aims and objectives. A well-structured process, as described within this guidebook can be helpful as you continue your capstone experience (Malhotra, 2013).

Hypothesis Testing for Research-Based Capstone Projects

The purpose of hypothesis testing is to make an inference about the population of interest based on a random sample taken from that population. Hypothesis testing is a statistical technique that will indicate whether a stated hypothesis is supported. It is during this phase of the research-based capstone project that you will meet with your institution's statistician, mentor, and capstone instructor(s) to determine the appropriate method for testing: whether *nothing happened* ***(null hypothesis)*** or *something happened* ***(alternate hypothesis).*** Although we have briefly addressed the purpose of hypothesis testing, the concept of statistical testing is complex; therefore, the details for this component of a research-based capstone project are beyond the scope of this guidebook

Conclusion

Designing a hypothesis and objectives are supported by a good guiding question and will influence the design for a capstone project. Acting on the principles of creating an appropriate hypothesis and study objectives, as outlined in this chapter, you will be on your way to creating a research-based capstone project that will produce clinically relevant results that can effectively contribute to evidence-based practice.

Case Study: Creating a Hypothesis

- Since Glynn's PIO question (see below) has been approved by her mentor and capstone instructors they have developed the following hypothesis and study objectives:

Study: A Health Literacy Workshop for Occupational Therapists Incorporating Elements of the Universal Precautions Toolkit

  - **Research Question:** Does a ***(I)*** health literacy universal precautions workshop for ***(P)*** occupational therapy practitioners ***(O)*** improve their working knowledge about health literacy, and increase their self-perceived ability to identify, assess and implement client-centered interventions that optimize outcomes for low-health literate patients?
  - **Null Hypothesis:** A health literacy universal precautions workshop for occupational therapy practitioners does not improve their working knowledge of health literacy and does not increase their self-perceived ability to identify, assess, and implement client-centered interventions that optimize outcomes for low-health literature patients
  - **Alternate Hypothesis:** A health literacy universal precautions workshop for occupational therapy practitioners improves their working knowledge of health literacy, and increases their self-perceived ability to identify, assess, and implement client-

centered interventions that optimize outcomes for low-health literature patients.

- **Study Objective:** The goal of this research-based capstone project is to determine if a health literacy workshop series for occupational therapists could improve their working knowledge of health literacy, and increase their self-perceived ability to identify, assess, and implement client-centered interventions for at-risk patients.

- Glynn will begin Phase two of literature scoping (reviewed in next chapter)
- Glynn will meet with the institution's statistician, their mentor, and capstone instructor(s) to discuss and determine the statistical technique that can be used to effectively test her hypothesis and guide her research methods, data collection, and analysis of results.
- Glynn will need IRB approval for her research-based capstone project and will begin by reviewing her school's IRB website and application process.

    - Does a ***(I)*** health literacy universal precautions workshop for ***(P)*** occupational therapy practitioners ***(O)*** improve their working knowledge about health literacy, and increase their self-perceived ability to identify, assess and implement client-centered interventions that optimize outcomes for low-health literate patients?

5. Conducting an Evidence-Based Literature Review

Learning Objectives

By the end of this chapter, you will be able to:

1. Explain the purpose of a literature search.
2. Develop a literature search strategy based on the PICO framework.
3. Describe and Apply the PICOT approach to specific research question development for capstone projects.
4. Identify at least two databases that can be used for a literature search.
5. Explain the relationship between evidence-based practice and levels of evidence.
6. Implement an information management system to facilitate critical appraisal of identified literature.

Overview

This chapter discusses the importance of the PICO framework when developing a literature search strategy. Common databases for literature scoping are shown. Strategies for critically appraising the literature are presented and examples of information management systems for effective literature reviews are included. This chapter ends with some examples of information management systems that can be used or modified to facilitate a succinct and relevant literature review.

Introduction

Once Phase 1 of literature scoping has been completed and a topic has been identified, and a PICO/PIO question developed it is time to begin Phase 2 of literature scoping. The second phase of a literature review is to help you delve deeper into what evidence is available on your topic or program of interest (Burke & Dempsey, 2022). Although literature reviews can be time consuming it is an extremely important component of a capstone project. Literature reviews are used to describe the population or community using supporting data. Literature reviews also begin to introduce the population or community needs or problem to substantiate a program or intervention. Literature reviews are also used with grant proposals and Institutional Review Board (IRB applications) as a means of supporting evidence-based practice. Once you have selected a topic and created a PIO/PICO question, literature should be reviewed for similar programs. Exploring other programs can help you understand challenges, successes, and potential funding streams associated with program development. Furthermore, students should be knowledgeable about what

similar programs exist so as not to reinvent the wheel (Doll, 2010).

The purpose of the literature search is to identify existing published research or information in a particular area of interest. This will assist you in clarifying your guiding question(s), and to identify whether your guiding question has been answered. A literature review must be strategic and systematic and informed by documented strategies. Search strategies have two major considerations: search terms and databases (Considine et al., 2017).

Developing a Search Strategy

The PIO/PICO framework (Chapter 3) should be used to develop search terms that are informed by the PIO/PICO question, Medical Subject Headings (MeSH), and any other terms deemed relevant. Alternative terms and spellings must also be considered (see Table 5.1: Examples of Alternative Terms)

Table 5.1: Examples of Alternative Terms

Pediatrics	Paediatric
Epinephrine	Adrenaline

Performing the Literature Search (Literature Sourcing)

With a solid PICO/PIO question, selection of databases begins.

Conducting a literature search involves the use of web-based search engines along with electronic research databases. Electronic bibliographic databases collect and index publications in a focus area. To find the correct database(s), explore what material it covers and develop knowledge of the search features within the database. This is also a great time for you to meet with their school's librarian, who can help you determine the most suitable databases available (Burke & Dempsey, 2022; DeIuliis, Bednarski, Bell, & DeAngelis, 2020).

To carry out a good literature review, you need to draw it from the latest research and information. While some books are good for providing you with a helicopter view of a topic, before the average book is written and published at least a year has passed. Consequently, books that have been published two or three years ago more than likely contain research that is over five years old (Burke & Dempsey, 2022). Yet each year, there are at least one million new academic articles published in peer-reviewed journals. For this reason, the most effective way of sourcing literature is by reading and reviewing peer-reviewed journal articles. Many peer-reviewed journal articles are accessible via open access. Literature sourcing can be done via Google Scholar, Touro Scholar, and other open access platforms; however, they are not exhaustive. That's why it is useful for you to draw from some of the databases available through the library of your educational institution (Burke & Dempsey, 2022). (Refer to Table 5.2: Common Databases for Literature Scoping).

Table 5.2: Common Databases for Literature Scoping

Name	Area of Focus
MEDLINE: accessed for free via PubMed	Wide range of literature, including medicine, nursing rehabilitation, allied health, dentistry, health care system and preclinical sciences
EMBASE: subscription-based	Wide range of biomedical information; European database
CINAHL: subscription-based	Nursing and allied health sources
Cochrane Library: subscription-based	Independent review of clinical effectiveness to inform decision-making in health care
Educational Resource Information Center (ERIC): free	Education-related studies
PsycINFO: subscription-based	Information from social and behavioral sciences
Google Scholar: free	Free web-based search engine that indexes citations and full-test articles
REHAB+: free (registration required)	Critical appraisals of literature pertaining to occupational and physical therapy

Source: DeIuliis, E. D., Bednarski, J. A., Bell, A., & DeAngelis, T. (2020). 3. In *The entry level Occupational Therapy Doctorate Capstone: A Framework for the experience and project* (pp. 41–55). essay, SLACK Incorporated.

To find the right database(s), explore what material it covers, and become familiarized with the search features within the database. It is best practice to search multiple databases that are relevant to your topic because different databases can yield different search results. Furthermore, all databases will allow you to truncate terms to find different word endings and expand your results. Note that the truncation symbol is usually the asterisk (*). For example, *nurs** will find nurses, nurse, and nursing. The wildcard is usually a question mark symbol (?) that can be used to replace a single character in a word to find

different spellings. For example, wom?n will show results for both woman and women. It is important to save your search strategy as this information is considered an important component of your capstone project (Considine et al., 2017).

The process that you use to search for and select literature should be organized and systematic, Although the majority of capstone projects will undergo the process of a rapid review of the literature, systematic reviews can also be completed. Rapid reviews have narrow search criteria to answer a policy or practice issue and systematic reviews have more expansive search criteria needed to answer a broader question (DeIuliis et al., 2020).

Getting and Reporting Your Search Results

Once search results are completed, the next step is for you to review all titles and abstracts and to remove duplicates. The remaining titles and abstracts are critiqued against the PIO/PICO question and the articles can then be labeled as ***included, excluded, or possibility.*** The full-text articles are then retrieved and read in detail for appraisal against the PIO/PICO question (Considine et al., 2017). One system to consider using to guide the critical reading of results obtained from the literature search is the Preview, Question, Read, and Summarize (PQRS) Model (Refer to Table 5.3: PQRS Model for Critical Reading). At this point, additional literature scoping can be done by hand searching the reference lists of the full-text papers for secondary sources. At the end of this process, it is imperative to have documented the literature search in a systematic fashion (Considine et al., 2017). This will be covered in the *Information Management* section of this chapter.

Table 5.3: PQRS Model for Critical Reading

Preview	Acquire an overview of the article for a quick scan or abstract review. Do the main points align with your capstone project? Is it worth a closer read?
Question	Ask questions about what you are reading. Does the article relate to your capstone project?
Read	Read the article. Now, read the article again. What information is in the article and how does it relate to your capstone project? You may also want to highlight specific text within articles that are of significance to your project. How does the article relate to your capstone project?
Summarize	In addition to highlighting significant text, write notes to summarize or paraphrase what you have read. Can you summarize how the content of the article helps support your project?

Source: DeLuliis, E. D., Bednarski, J. A., Bell, A., & DeAngelis, T. (2020). 3. In *The entry level Occupational Therapy Doctorate Capstone: A Framework for the experience and project* (pp. 41–55). essay, SLACK Incorporated.

Evaluating the Literature

Once the inclusion/exclusion process of the literature is complete, the resultant articles are re-reviewed and the level, quality, relevance and strength of the evidence is critically appraised (Refer to Table 5.4: Level, Quality, Relevance, and Strength of Evidence Checklist)

Table 5.4: Level, Quality, Relevance, and Strength of Evidence Checklist

Level of Evidence	Study design used as a measure of the degree to which bias has been eliminated by the design
Quality of Evidence	The quality of the methods used by investigators to minimize bias
Relevance of Evidence	This is determined by the relevance of the outcome measures used and the applicability of the project results to other treatments, settings, and patients
Strength of Evidence	The magnitude and reliability of the treatment effect seen in a study. Strong effects are more likely to be real and clinically important. Strength of evidence takes into account the effect size, confidence interval, *p* value, and the exclusion of clinically unimportant effects

Source: Considine, J., Shaban, R. Z., Fry, M., & Curtis, K. (2017). Evidence based emergency nursing: designing a research question and searching the literature. *International emergency nursing*, *32*, 78-82.

Levels of Evidence: Quantitative Studies

Levels of evidence are based on the principle that certain study types have more rigor and these higher quality study designs provide more confidence to associated clinical decision-making (Tomlin & Borgetto, 2011). It is important to note that in many areas of health, it is difficult to attain high-level evidence. Consequently, the focus should be on determining the highest ***available*** level of evidence (Refer to Table 5.5: Levels of Evidence)

Table 5.5: Levels of Evidence

Level I	Systematic reviews, meta-analysis, randomized controlled trials (RCT)
Level II	Two groups, non-randomized studies (for example, cohort, case control)
Level III	One group, non-randomized (before and after; pre- and post-test)
Level IV	Descriptive studies that include analysis of outcomes (case study, single subject)
Level V	Case reports and expert opinion that includes narrative literature reviews and consensus statements

Source: DeLuliis, E. D., Bednarski, J. A., Bell, A., & DeAngelis, T. (2020). 3. In *The entry level Occupational Therapy Doctorate Capstone: A Framework for the experience and project* (pp. 41–55). essay, SLACK Incorporated.

The levels of evidence are an important component of evidence-based practice (EBP) . Understanding the levels and why they are assigned to publications can help you prioritize information. With that being said, not all Level IV or V evidence should be ignored nor all Level I be accepted as fact. The levels of evidence table within this chapter (Table 5.5) can be used as a guide; however, you will still need to be cautious when interpreting results (Burns, Rohrich, & Chung, 2011).

Information Management (CAPs Matrix, COREQ)

Developing an effective strategy for managing information before you begin to engage with the literature is vital. Using reference manager software or developing an information

management system will help to enable efficient saving and sorting of references. There are several techniques that can be used for information management that we will review; however, it is important to discuss information management with your capstone course instructors and mentors to ensure you are meeting specific course and program requirements. It should also be noted that any information management system used can be modified to meet your and/or individual program needs and requirements.

Microsoft Excel Note-Taking Spreadsheet

A simple technique for managing information is to create a Microsoft Excel spreadsheet comprised of information you require for your literature review (Refer to Table 5.6: Example of Note-Taking Spreadsheet for Literature Review).

Table 5.6: Example of Note-Taking Spreadsheet for Literature Review

Citation	Key Findings	Comments
Journal Article #1		
Journal Article #2		
Book #1		

Critically Appraised Paper (CAP)

A CAP is an at-a-glance summary of the method, findings, study limitations, and clinical implications of a selective **quantitative** or **qualitative-**based article. Critically Appraised Papers are used to provide a detailed appraisal of an individual study to determine its value and relevance to a capstone project. Each article would have its own CAP and each CAP would be numbered (Refer to Appendix 5.A: Sample Critically Appraised Paper (CAP).

Matrix Tables

Using a review matrix enables you to quickly compare and contrast articles in order to determine the scope of research

across time. A review matrix can be used for **quantitative** or **qualitative** studies and can help you easily spot differences and similarities between journal articles about a given research topic. Review matrixes are especially helpful for health sciences literature reviews covering the complete scope of a research topic over time. Matrix tables expand both horizontally and vertically, with the number of rows and columns being determined by the number of unique values in the specific fields (Refer to Appendix 5.B: Sample Matrix Table).

Consolidated Criteria for Reporting Qualitative Studies (COREQ) Checklist

For **qualitative** research, you can also use the Consolidated Criteria for Reporting Qualitative Studies Checklist (COREQ) for reporting purposes. The COREQ is a 32-item checklist developed to promote explicit and comprehensive reporting of interviews and focus groups It is important that you include sufficient detail on the methods of data analysis and the relationship between the analysis and their findings in this research report so reviewers can assess the rigor of the research analysis and the credibility of research findings (Booth, Hannes, Harden, Noyes, Harris & Tong, 2014). (Refer to Appendix 5.C: Sample COREQ (Consolidated Criteria for Reporting Qualitative Research Checklist).

Citing Sources

Once you have consulted the literature and are ready to synthesize your information, be sure to adequately give credit to original authors by citing appropriately. You must cite the source every time you incorporate research, words, ideas, data, or information that is not your own. Typically, citations consist of standard elements and contain the information necessary to identify and track down publications. Citations may look

different, depending on what is being cited and which style is used to create them. Plagiarism occurs when you borrow another's words or ideas and do not acknowledge that you have done so. The best way to avoid plagiarism is to cite your sources, both within the body of your paper and also within the bibliography of sources, or reference page. It is important for you to discuss citation style and requirements with your program and capstone instructors to ensure you are citing your sources according to program and course policies (Boston University School of Public Health, 2021). It should also be noted that there are a number of citation management tools that can help you organize your references such as RefWorks and Zotero. Your educational institution's library can provide you with more guidance with citation management tools available to students.

Conclusion

To understand the importance and relevance of available literature, you must locate, identify, and analyze available literature that supports your topic. Using a systematic process for literature scoping and information management is essential to the literature review process. Level of evidence interpretation can also help you effectively critically appraise the evidence and report on your findings.

Case Study: Conducting a Literature Review

Glynn began the second phase of their literature review, a systematic and thorough literature search to locate the most current research supporting their capstone project. Glynn met with her school's librarians via Zoom meetings and subsequently used the databases subscribed to by their educational institution and Google Scholar. Science Direct, CABI, The Embase, The Cochrane Library, and ERIC were included to investigate articles published in any country and written in English over a ten-year lookback. Keywords and phrases that were used to perform effective database searches included *health literacy, functional health literacy, low health literacy, health literacy and chronic disease, health literacy curricula for health care professionals, occupational therapy and low health literature patients, health literacy education, health literacy universal precautions, low health literacy and older adults in rehabilitation settings, and health literacy and community-dwelling adults*.

A systematic database review by title and keywords resulted in 57 articles that were further reviewed and scrutinized in their entirety to determine their relevance to the capstone project. After a thorough analysis of these articles, 21 studies were chosen for Glynn's Critically Appraised Topic (CAT) portfolio.

Inclusion criteria for Glynn's CAT portfolio included topics that:

- Clearly described a health literacy intervention that was developed or adapted for health care

professionals or students enrolled in an accredited health care program
- Utilized a validated measure of health literacy for patients, such as the Rapid Estimate of Adult Literacy in Medicine (REALM)
- Included measurements of participants; self-perceived ability to identify, assess, and provide client-centered interventions for patients identified as low health literature using questionnaires, pre-post workshop surveys, or pre-post workshop quizzes regarding knowledge of health literacy
- Provided a description of effective, evidence-based educational tools and strategies that can be included in health literacy curricula for health care professionals
- Addressed the importance of health literacy and integrating health literacy initiatives into health care practice
- Described the impact of low health literacy and patient outcomes for older adults

Exclusion criteria for Glynn's CAT portfolio included:

- Literacy plans not related to functional health literacy initiatives for health care professionals
- Literature lacking in an evidence-based practice approach

According to Glynn's educational program and capstone course policies and procedures, these 21 articles became part of their Critically Appraised Topic Portfolio and a critically appraised resource template,

provided by her educational institution and capstone instructors. A critically appraised resource template was completed for each article. Each critically appraised resource was numbered, and levels of evidence were reported according to the Oxford Centre for Evidence-Based Medicine Standard Levels of Evidence (Refer to Appendix 5.D: Glynn's Critically Appraised Resource #1).

Glynn further reviewed these 21- articles and the following common themes were identified:

- Defining health literacy
- Health literacy universal precautions
- Health literacy curriculum for health care professionals
- Identifying and assessing low-health literate patients
- Strategies to develop patient-friendly reading materials and forms
- Strategies to improve provider/low-health literate patient communication

Glynn consulted with her capstone instructors and will be using APA Style, 6th edition to cite sources within their capstone project.

Refer to Appendix 5.D: Glynn's Critically Appraised Resource #1

Appendix 5.A: Sample Critically Appraised Paper (CAP) Template

CRITICALLY APPRAISED PAPER #1 (you will number each resource)

List PIO/PICO Question Here or your health promotion program idea (on everyone)

Name of Article and source:

Put APA Formatted Citation Here-don't forget hanging indent and double spacing

Purpose of the Study	Clearly state the results in layman's terms. (Do not copy statistics from the study) Were results statistically significant and/or clinically significant? If so, what does this mean in layman's terms?
Setting	Examples: inpatient rehab unit, SNF , public school system, drug and alcohol clinic, community senior housing complexes, etc. Be sure to include the geographic location (for example, US, Australia, rural/urban, etc. if this info is available) For SR 's, include a summary of the types of settings of reviewed studies.
Subjects/Sample	Include any info that is available regarding number of subjects, diagnoses, how they were recruited, was the sample random , convenience, purposive, and any other pertinent demographics. For systematic reviews, this is the number of studies reviewed and their designs, as well as a general review of subjects in those studies.
Study Design/ Methodology	What type of research design was used? Examples: systematic review, randomized control trial (RCT) , cohort, single case design, ethnography, grounded theory, etc. Briefly summarize the methodology (in other words what did the researchers do?)

Level of Evidence	I, II, III, IV, or V or Qualitative
Data Collection Tools/ Measures	List the data collection tools/ measure(s) used. *This is not the NOT statistics used-these are the assessments/outcome measures/tools used.* Are these measures valid and reliable? Were they created by the authors? Were they piloted? You may need to look beyond the article to find this information out. For a systematic review (SR), how were the studies assessed for quality?
Results/Main Findings	Clearly state the results in layman's terms. (Do not copy statistics from the study) Were results statistically significant and/or clinically significant? If so, what does this mean in layman's terms?
Limitations	List any limitations in the study that need considered when evaluating results. Look beyond limitations noted in the article, where applicable

How Useful is the Study to Your Project? (Check off all that apply)	☐Provides background info ☐Study uses the same/ similar Population to your proposed project ☐DIRECTLY supports the Proposed Intervention **(shows effectiveness of the intervention for desired/ similar outcome)** ☐INDIRECTLY supports Intervention (**supports smaller aspects of the intervention—content, structure, etc.)**
This study was identified as the 'best' evidence and can be applied to your proposed EBP project in these SPECIFIC ways:	Use bullet points to clearly, concisely, & SPECIFICALLY explain how you will use this study in designing your EBP project. Keep in mind that you can glean valuable information from ALL studies regardless of whether or not the results are positive. For example, say you are looking at fall prevention & you believe that use of appropriate footwear can decrease the risk of falls. Then you locate a study that reports this is not true. It would ***still*** be important to include this study—remember that "best" evidence combines the research with your skills/ knowledge & the needs of your client/population. You would also have to consider how applicable this study is to what you are proposing.

The information in the boxes to the RIGHT in the

table has been provided for explanation purposes. You should delete this information and use this template for each resource.

Appendix 5.B: Sample Matrix Table

Author	Year Published	Purpose	Level of Evidence	Research Design	Number of Subjects	Data Collection Tools(s)

Appendix 5.C: Sample COREQ (Consolidated Criteria for Reporting Qualitative Research Checklist).

List PIO/PICO Question Here or your health promotion program idea (on every page).

Name of Article and source:

Put APA Formatted Citation Here-don't forget hanging indent and double spacing.

Topic	Item Number	Guide Questions/ Description	Reported on Page #:
Domain #1: Research Team and Reflexivity			
Personal Characteristics			
Interviewer/ Facilitator	1	Which author(s) conducted the interview or focus group?	
Credentials	2	What were the researcher's credentials? e.g., PhD, OTD	
Occupation	3	What was their occupation at the time of the study?	
Gender	4	Was the researcher male or female?	
Experience and Training	5	What experience or training did the research have?	
Relationship with Participant			
Relationship Established	6	Was a relationship established prior to study commencement?	

Participant Knowledge of the Interviewer	7	What did the participants now about the researcher? e.g., personal goals, reasons for doing research	
Interviewer Characteristics	8	What characteristics were reported about the interviewer/ facilitator? e.g., Bias, assumptions, reasons, and interests in the research topic	
Domain #2: Study Design			
Theoretical Framework			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g., grounded theory, discourse analysis, ethnography, phenomenology, content analysis	
Participant Selection			
Sampling	10	How were the participants selected? e.g., purposive, convenience, consecutive	

Method of Approach	11	How were participants approached? e.g., face-to-face, telephone, mail, email	
Sample Size	12	How many participants were in the study?	
Non-Participation	13	How many people refused to participate or dropped out? Reasons?	
Setting			
Setting of Data Collection	14	Where was the data collected? e.g., home, clinic, workplace	
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	
Description of Sample	16	What are the important characteristics of the sample? e.g., demographic data, date	
Data Collection			
Interview Guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	

Repeat Interviews	18	Were repeat interviews carried out? If yes, how many?	
Audio/Visual Recordings	19	Did the research use audio or visual recording to collect the data?	
Field Notes	20	Were field notes made during and/or after the interview or focus group?	
Duration	21	What was the duration of the interview or focus group?	
Data Saturation	22	Was data saturation discussed?	
Transcripts Returned	23	Were transcripts returned to participants for comment and/or correction?	
Domain 3: Analysis and Findings			
Data Analysis			
Number of Data Coders	24	How many data coders coded the data?	
Description of the Coding Themes	25	Did authors provide a description of the coding tree?	

Derivation of themes	26	Were themes identified in advance or derived from the data?	
Software	27	What software, if application, was used to manage the data?	
Participant Checking	28	Did participants provide feedback on the findings?	
Reporting			
Quotations Present	29	Were participant quotations presented to illustrate the themes/ findings? Was each quotation identified? e.g., participant number	
Data and findings consistent	30	Was there consistency between the data presented and the findings?	
Clarity of Major Themes	31	Were major themes clearly presented in the findings?	
Clarity of Minor Themes	32	Is there a description of diverse cases or discussion of minor themes?	

Source: Tong, A., Sainsbury, P & Craig J. (2007).

Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care, 19*(6), 349-357.

Appendix 5.D: Glynn's Critically Appraised Resource #1

Does a (I) health literacy workshop for (P) occupational therapists that incorporates elements of the Health Literacy Universal Precautions Toolkit (O) improve their working knowledge about health literacy, and increase their self-perceived ability to identify, assess, and implement client-centered interventions that optimize outcomes for low-health literate patients? *Schepens-Niemiec, S.L., Carlson, M., Martinez, J., Guzman, L., Manahan, A. & Clark, F. (2015). Developing occupation-based preventative programs for late-middle aged Latino patients in safety-net health systems. The American Journal of Occupational Therapy, 68, 6906240010p1-6906240010p11.https://doi.org/10.5014/ajot.2015.015958*

Purpose of the Study	The purpose of this study was to develop a foundational schema for the design of health promotion programs that could be implemented by OT practitioners for late-middle-aged Latino patients in safety-net health systems
Setting	Interviews were conducted individually, in a quiet place, either the participants' homes or a location of their choice.
Subjects/Sample	• Persons of Latino race/ethnicity, 50-60 years of age • English or Spanish speaking • Active patrons of Los Angeles County Department of Health Services Primary Care Institution: El Monte, Edward R. Roybal, or H. Claude Hudson Comprehensive Health Centers • Persons who received safety-net primary care through LaC-DHS with a family income lower than 133.33% of the federal poverty level • Six Latino men and five Latina women with an average age of 56

Study Design/ Methodology	• This is a qualitative study design • Each participant was interviewed twice • Seven participants completed the interviews in Spanish • Each participant had at least one chronic condition • Interviewers had no relationship with subjects
Level of Evidence	This is a Level IV evidence-based study

Data Collection Tools/ Measures	• Researchers developed a semi-structured interview guide that was administrated by a trained, bilingual Latino OT • Researchers performed an inductive content analysis of qualitative data to identify patterns and regularities in subject responses • Researchers sorted and categorized established codes into meaningful clusters • Codes and categories were adjusted to accommodate new information • Researchers compared interview content across the sample to determine commonalities, disagreements, and focal points necessary to construct a typology of subject-identified health strategies
Results/Main Findings	• Identified domains included weight management, disease management, mental health and well-being, personal finances, family, friends and community, and stress management • Identified domains and strategies are illustrated in Table 2 in article

Limitations	• The qualitative methodology and the non-random sample of late middle-aged Latinos who were targeted for this study makes findings not generalizable to other late middle-aged populations • This was a convenience sample • Participants may have incorrectly identified strategies that do not promote health • The translation and transcription process of this study may have influenced or altered participants responses
How Useful is the Study to Your Project? (Check off all that apply)	☒ Background ☒ Population ☐ DIRECTLY supports Intervention (shows effectiveness) ☐ INDIRECTLY supports Intervention ☐ Assessment/Evaluation

This study was identified as the 'best' evidence and can be applied to your proposed EBP project in these SPECIFIC ways:	• The most important finding in the study is the extent to which participants viewed everyday occupations as key to their health and well-being • The scheme generated from this study can be used by occupational therapists as a foundation for designing client-centered occupational therapy health promotion interventions with a number of patient populations • Results of this study indicate that occupational therapy health promotion interventions are beneficial for their patients

6. Supporting Your Study with Theoretical Constructs

Learning Objectives

Learning Objectives

By the end of this chapter, you will be able to:

1. Describe the purpose of theoretical frameworks in capstone projects.
2. Explain the purpose of conceptual frameworks in capstone projects.
3. Explain the purpose of planning models in capstone projects.
4. Compare and contrast theoretical frameworks, conceptual frameworks, and planning models.
5. Describe at least two ways that a theoretical framework can strengthen a capstone project.
6. Utilize strategies to select an appropriate framework or model for your capstone project.

Overview

This chapter addresses the relevance of selecting a theoretical framework, conceptual framework, or planning model to guide and support your capstone project. Theoretical and conceptual frameworks are compared and contrasted. Planning models are reviewed in the context of community program development. The connection between frameworks and/or planning models with literature reviews is explained. This chapter ends with a list of strategies that you can use to select an appropriate framework or model for your capstone project. It is important that you meet with your mentor, and capstone instructors to ensure your choice of framework or planning model is appropriate.

Introduction

The theoretical framework is a very important aspect of the capstone process. The importance of theory-driven thinking and acting is emphasized in relation to the selection of a topic, the development of the PIO/PICO question, the conceptualization of the literature review, the design approach, and the outcome/analysis plan of your capstone project. Consequently, the theoretical framework provides your capstone project with a grounding base, or an anchor, for the literature review, the methods, and the analysis for your capstone project. Your choice of a theory will provide structure to your entire capstone project. It provides a common worldview or lens from which to support your thinking on the problem and analysis of data (Grant & Osanloo, 2016). It is important to discuss this important aspect of your capstone

project with your capstone instructors and mentor to ensure it is suitable for your particular capstone project.

What is a Theoretical Framework?

The theoretical framework is the "blueprint" for the entire capstone project. It serves as the guide on which to build and support your project. While theories are formulated to explain, predict, and understand phenomena, frameworks provide critical support for developing aspects of the capstone project over time. In many cases, theoretical frameworks are created to challenge and extend existing knowledge. The theory you select for your capstone project offers a conceptual basis for understanding, analyzing, and designing ways to investigate a problem. Therefore, the theoretical framework of a capstone project consists of the selected theory (or theories) that upholds your thinking with regards to how you understand and plan to investigate and review your topic, as well as the concepts and definitions from that theory that are pertinent to your topic (Grant & Osanloo, 2016).

The Importance of Theoretical Frameworks in Research

A theory is crucial for any capstone project to provide direction and to validate or disapprove a phenomenon. The role of the theoretical framework is to reduce your topic into two factors to simplify the concept:

1. The identified need or problem
2. The rationale for investigating the issue

A theoretical framework consists of concepts, together with their definitions, and existing theory/theories that are used for your capstone project. The theoretical framework is vital to all capstone projects in order to clarify an implicit theory in a manner that is more clearly defined (Refer to Table 6.1: How Theoretical Frameworks Strengthen a Study).

Table 6.1: How Theoretical Frameworks Strengthen a Capstone Project

- An explicit statement of theoretical assumptions permits the reader to critically appraise them

- The theoretical framework connects the investigator to existing knowledge. A relevant theoryprovides the basis for your hypotheses and choice of project methodology

- Articulating the theoretical assumption of a project forces you to address questions of why and how. It permits you to move from simply describing an occurrence observed to generalizing about various aspects of that occurrence

- Articulating the theoretical assumption of a project forces you to address questions of why and how. it permits you to move from simply describing an occurrence observed to generalizing about various aspects of that occurrence

- Having a theory helps you to identify the limits to generalizations. A theoretical framework specifies which key variables influence a phenomenon of interest. It signals you to examine howthose key variables might differ and under what circumstances

- A theoretical framework is used to limit the scope of your relevant data by focusing on specific variables and defining the specific framework that the investigator will take in analyzing and interpreting data to be gathered, understanding concepts and variables according to the given definitions, and building knowledge by validating or challenging theoretical assumption

- A theoretical framework can enhance your literature review

- A theoretical framework can support the need for a professional knowledge base

• Theoretical frameworks shape and guide practice by providing scientific support for practice andtests the effectiveness of a program or intervention
• Theoretical frameworks provide a foundation for a professional paradigm
• Theoretical frameworks assist in professional reasoning

Sources: DeIuliis, E. D., Bednarski, J. A., Bell, A., & DeAngelis, T. (2020). 3. In *The entry level Occupational Therapy Doctorate Capstone: A Framework for the experience and project* (pp. 41–55). Essay, SLACK Incorporated; Organizing academic research papers: Theoretical framework. (n.d.). Retrieved September 1, 2022, from https://library.sacredheart.edu/c.php?g=29803&p=185919%3A

Strategies for Selecting an Appropriate Theoretical Framework

Selecting an appropriate theoretical framework for your capstone project is an important process. The selection of a theoretical framework requires a deep and meticulous understanding of your problem, purpose, significance, and PIO/PICO question(s). It is important that all four constructs: the problem, purpose, significance, and research questions are tightly aligned and interwoven so that your theoretical framework can serve as the foundation for your work and guide your choice of capstone project design and data analysis. Our beliefs are influenced by assumptions, values, and

ethics, which are all personal postulates; therefore, your fundamental beliefs will influence how you will examine and explore available information and research. For this reason, it is important to reflect on your own worldview and way of conceptualizing problems. It is important to remember that there is no one theory that fits best with any inquiry; therefore, it is important to select and provide a clear rationale for your theory choice to ensure that it aligns and supports the structure of your capstone project's purpose, PIO/PICO question(s), significance, and design (Grant & Osanloo, 2016). (Refer to Table 6.2: General Guidelines for Selecting a Theoretical Framework).

Table 6.2: General Guidelines for Selecting a Theoretical Framework

• Start by identifying your beliefs
• Consider a few theories that intersect nicely with your personal values and broaden your way of thinking about the concepts in your project
• Examine your capstone title and investigate the problem: the problem anchors your capstone project and forms the basis for you to construct your theoretical framework
• Develop a working knowledge of your selected theories and understand why each theory is important to you
• Review theories that were introduced to you in relevant courses
• List the constructs and variables that are relevant to your project
• Conduct a brief literature review to find support for your selected theory/theories
• Discuss the assumptions or propositions of chosen theories and note the relevance to your research
• Consider arguments that oppose your beliefs and theories
• Apply answers to *how* the theory connects to your problem, the project's purpose, significance, and design

• Select one theoretical framework that provides a solid, descriptive blueprint for your reader
• Note why the theory you have ultimately chosen is the appropriate one

Sources: Osanloo, A., & Grant, C. (2016). Understanding, selecting, and integrating a theoretical framework in dissertation research: Creating the blueprint for your "house". *Administrative issues journal: connecting education, practice, and research*, *4*(2), 7; Organizing academic research papers: Theoretical framework. (n.d.). Retrieved September 1, 2022, from https://library.sacredheart.edu/c.php?g=29803&p=185919%3A

What is a Conceptual Framework?

A conceptual framework is a structure that the investigator believes can best explain the natural phenomenon being studied. Conceptual frameworks are linked with the concepts, empirical research, and important theories used in promoting or systemizing the knowledge promoted by the investigator. Simply, conceptual frameworks present an integrated way of looking at a problem under exploration (Adom, Hussein & Adu-Agye, 2018).

The Importance of Conceptual Frameworks in Research

Conceptual frameworks assist the investigator in identifying and constructing their global perspective on the occurrence to be explored. Conceptual frameworks are often used by investigators when existing theories are not applicable or sufficient in creating a firm structure for a project (Adom, Jussein & Adu-Agye, 2018). (Refer to Table 6.3: How Conceptual Framework Strengthen a Study).

Table 6.3: How Conceptual Frameworks Strengthen a Study

• Conceptual frameworks accentuate the reasons why a topic is worth studying
• Conceptual frameworks emphasize the assumptions of the investigator
• Conceptual frameworks are the simplest way through which an investigator can present their asserted remedies to an identified issue, problem or need
• Conceptual frameworks inform readers on what to expect and know from your capstone project
• Conceptual frameworks define the relevant variables for a project and maps out how they relate to each other
• A conceptual framework can include a visual representation that helps to illustrate the expected relationship between cause and effect.
• Conceptual framework are generative frameworks that reflect the thinking of the entire capstone process

Sources: Adom, Dickson & Hussein, Emad & Adu-Agyem, Joe. (2018). *Theoretical and conceptual framework: Mandatory ingredients of a quality research*. International Journal of Scientific Research. 7. 438-441; Afribary. (2020, December 3). *Theoretical framework vs conceptual framework (differences and similarities).* Afribary. Retrieved September 3, 2022, from https://afribary.com/knowledge/theoretical-framework-vs-conceptual-framework/

Strategies for Selecting or Creating a Conceptual Framework

A conceptual framework illustrates the expected relationship of your research-based capstone variables. It defines the relevant objectives for your capstone process and maps out how they come together to draw a clear, and comprehensive conclusion. It should also be noted that conceptual frameworks should be identified or developed prior to data collection (Refer to Table 6.4: General Guidelines for Selecting or Creating a Conceptual Framework).

Table 6.4: General Guidelines for Selecting or Creating a Conceptual Framework

• After selecting a topic for your research and developing your PIO/PICO question, carry out a literature review (*Refer to Chapter 2 and 5)*
• Work on understanding what research has already been done on your topic and contribute to it
• Ensure your project helps to fill in a gap in knowledge
• Identify your Dependent and Independent Variables (*Chapter 4*)
• Visualize your project's *Cause* and *Effect* relationship
• Create your own conceptual framework in the form of a flowchart, mind map or concept map and explain thereafter (*Refer to Chapter 7)*

Sources: Adom, Dickson & Hussein, Emad & Adu-Agyem, Joe. (2018). *Theoretical and conceptual framework: Mandatory ingredients of a quality research*. International Journal of Scientific Research. 7. 438-441; Afribary. (2020, December 3). *Theoretical framework vs conceptual framework (differences and similarities)*. Afribary. Retrieved September 3, 2022, from https://afribary.com/knowledge/theoretical-framework-vs-conceptual-framework/

Theoretical versus Conceptual Frameworks

Many students, researchers, and investigators ask whether theoretical frameworks are the same as conceptual frameworks. Theoretical and conceptual frameworks are neither interchangeable nor synonymous. A theoretical framework is derived from an existing theory (or theories) in the literature that has already been tested and validated by others. A theoretical framework is considered a generally accepted theory in scholarly literature. Theoretical frameworks are usually developed from theoretical deduction rather than from observation or experience; however, a theoretical framework may also involve a theory that is developed during the capstone experience (Grant & Osanloo, 2016).

Conceptual frameworks are used to support the understanding of how a problem or issue will best be explored, the specific direction the project will have to take, and the relationship between different variables in a capstone project. Conceptual frameworks lay out the key factors and variables and presumed relationships among them. A conceptual framework offers a logical structure of connected concepts that help provide a picture or visual display of how ideas in a project relate to one another within the theoretical framework (Grant & Osanloo, 2016). It should be noted that there are instances where researchers develop their conceptual frameworks from the theories that underpin their capstone project (Adom et al., 2018).

Theoretical and conceptual frameworks have some commonalities:

- They both point to the reliability of a study from previous research finding and theories
- Both explain the future course of the research study,

rationalizing the reliability of the study

- Both are used to understand a research problem and to guide the development, collection, and analysis of a research study
- They both show the relationship between ideas and theories and how they relate to the study
- They both heighten the quality of a research study

Although theoretical and conceptual frameworks have some commonalities, they also have characteristics that make them different (Afribary, 2020). (Refer to Table 6.4: Differences Between Theoretical and Conceptual Frameworks),

Table 6.4: Differences Between Theoretical and Conceptual Frameworks

Theoretical Framework	Conceptual Framework
It provides a general or broader set of ideas within which a project belongs	It refers to specific or narrower ideas an investigator utilizes in their study
It is based on existing theory (theories) in the literature which has been tested and validated by other scholars	It is based on the concepts which are the main variables in a project
It is in the form of a *model* that pivots a study	It can be an adaption of a *model* in an existing theory, which an investigator adapts to suit their project purpose -or- It can be an investigator's own constructed *model* that is used to explain the relationship that exists between the main variables in their project
It investigates the current research problem using the lens of past relevant theories from existing literature	It looks at the current problem through the lens of existing knowledge on the topic, and what the investigator wants readers to know about that topic
It is well-developed, designed, and accepted	Its design is not accepted, but it's a proposal of the investigator's answer to the identified problem or need
It offers a focal point for approaching the unknown research in a specific field of inquiry	It is the framework that shows logically how the project inquiry is to be started
It consists of interrelated theories	It consists of concepts interconnected to explain the relationships between them and how the investigator asserts to answer the defined problem
It is used to test theories, to predict and control the situations within the context of a research inquiry	It is aimed at encouraging the development of a theory that be useful to practitioners in the field of study
It is based on the research paradigm	It is developed from the foundation of acceptable and logical findings.

It is a general set of ideas and theories	It a specific concept used in a capstone project
It is often used in quantitative research-based capstone projects	It is commonly used in qualitative research-based capstone projects

Sources: Adom, Dickson & Hussein, Emad & Adu-Agyem, Joe. (2018). *Theoretical and conceptual framework: Mandatory ingredients of a quality research*. International Journal of Scientific Research. 7. 438-441; Afribary. (2020, December 3). *Theoretical framework vs conceptual framework (differences and similarities)*. Afribary. Retrieved September 3, 2022, from https://afribary.com/knowledge/theoretical-framework-vs-conceptual-framework/

What is a Planning Model

Planning models serve as an organizing framework for an entire health promotion effort, such as program development. For this reason, planning models are considered much broader than theories. Specifically, planning models are inclusive of theories and serve as a blueprint for building and improving health promotion programs. It should be noted that a planning model does not specify the exact theory that should be used in program development; rather, it specifies basic procedures that can be used to guide the decision-making and program planning process. While planning models provide very useful step by step guides for constructing and evaluating a program's effectiveness, it does not specify the theory that should be used. Rather, a planning model does specify basic guidelines that will guide you through the process of making key decisions, including choosing an appropriate framework for your capstone project (Crosby & Noar, 2011; Pashmdarfard, Arabshahi, Shafaroodi, Mnehrabe, Parvizi & Haracz, 2020). The

PRECEDE-PROCEED Model for community-program development will be detailed in Chapter 8 (Refer to Table 6.5: Examples of Theoretical and Conceptual Frameworks and Planning Models)

Table 6.5: Examples of Theoretical and Conceptual Frameworks and Planning Models

Theoretical Framework	Conceptual Model	Planning Model
Sensory Integration	European Conceptual Framework for Occupational Therapy	Allen's Cognitive Disabilities Model
The Theoretical Framework of Cultural Competency	Conceptual Framework for Culturally Competent Care	The PRECEDE-PROCEED Model for Community Program Development

Conclusion

This chapter discussed the important role of theoretical and conceptual frameworks in capstone projects. A theoretical framework is the structure that can hold or support a theory of a capstone project. Conceptual frameworks provides an integrated way of examining a problem or issue being explored. Planning models are typically used in program development focusing on health promotion initiatives and will help guide you through the process of choosing an appropriate framework for your capstone project.

It is important to discuss this important component with your mentor and capstone instructors to ensure the framework chosen supports your study.

Case Study

Case Study: Selecting a Theoretical Framework

Glynn has continued to meet with their mentor, capstone instructor(s) the institution's statistician, and librarians. The following was solidified:

Title of Capstone Project: A Health Literacy Workshop for Occupational Therapists Incorporating Elements of the Universal Precautions Toolkit: A Research-Based Capstone Project in Occupational Therapy

PIO: Does a health literacy workshop for occupational therapists that incorporates elements of the Health Literacy Universal Precautions Toolkit improve their working knowledge about health literacy, and increase their self-perceived ability to identify, assess, and implement client-centered interventions that optimize outcomes for low-health literate patients?

Type of Study: Mixed Methods: Quantitative Outcome Measures (Pre-Post Workshop Survey, Pre-Post Health Literacy Quiz) and Qualitative Outcome Measures: (Answer to open-ended questions included on Pre-Post Workshop Survey).

Independent Variable: A Health Literacy Universal Precautions Workshop

Dependent Variable(s): -Knowledge of health literacy

- Self-perceived ability to identify low health literate patients
- Self-perceived ability to assess low-health literate patients
- Self-perceived ability to implement client-centered interventions that optimize outcomes for low-health literate patients

Conceptual framework guiding the Capstone Project: Diffusion of Innovations

Glynn will perform a literature review on her chosen theory to substantiate its relevance to their capstone project. Glynn will then work on their conceptual framework as it relates to the health literacy program they will be implementing. Glynn will then begin to work on the activities that will be included in their health literacy workshop (program implementation), participant recruitment (based on *Inclusion* and *Exclusion* criteria). Glynn will complete an IRB application. Once Glynn receives IRB approval, they will begin participant recruitment and program implementation: A health literacy workshop for occupational therapy professionals in a skilled nursing facility, 1 time per week, one hour per session, for 6 weeks.

7. Mapping Out your Capstone Project

Learning Objectives

By the end of this chapter, you will be able to:

1. Explain how visual mapping can be used to organize knowledge and structure for your capstone project.
2. Compare and contrast Logic Models and Concept Maps
3. Explain how Problem Tree and Root Cause analyses can help you better understand identified problems, issues, or needs and develop methods for addressing them.
4. Utilize a SWOT analysis for strategic planning of the capstone process.

Overview

This chapter focuses on visual mapping tools that can help you plan and implement your capstone project. The purpose of Logic Models and Concept Mapping in relation to capstone

projects are explained. Problem Tree and Root Cause analyses are described in the context of identifying and planning for capstone project development. Strength, Weakness, Opportunities, and Threats (SWOT) Analysis, as a strategic planning model for capstone development, is also discussed.

Introduction

Visual mapping, as a capstone planning tool, is an excellent way to organize knowledge that can help you to structure, address, and systematically approach your capstone topic. A Logic Model is a graphic depiction, or road map, that presents the shared relationships among resources, activities, outputs, and outcomes/impacts of your capstone project's activities. The intended effect of a Logic Model is the "if-then" relationship among the project's elements (Centers for Disease Control and Prevention [CDC], 2018). Concept mapping is a useful tool that can be used to define your theoretical framework and to visually display how it is applied to your literature review (Grant & Osanloo, 2016). Problem Tree analysis, also referred to as Situational analysis, can be used for project planning. Problem Tree analysis can help you find solutions to an identified problem, issue, or need by mapping out the anatomy of the cause and effect (Luma Institute, 2021). Root Cause analysis can be used to discover the root causes of a problem, issue, or need to identify appropriate solutions (Guavera, 2018). Finally, a SWOT Analysis is a dynamic planning model that can be used to plot out a future course for your capstone project by acting on strengths, while minimizing associated risks. It is important for students to develop knowledge and skills with visual mapping models and techniques in order to enhance their capstone project planning and development.

Logic Models

Logic Models provide a visual representation of an entire program in a flow chart format. Logic Models are a systematic and visual way to present and share your understanding of the relationships among the resources you have compiled to conduct your capstone project, the activities planned for implementation, and the anticipated changes or results from project/program implementation.

Components of a Logic Model

Logic models can focus on any level of a program: the entire organization, one of its component departments or programs, or just specific parts of a department or a program. Although logic models differ widely in format and level of detail, the following key terms should be considered in its development (Refer to Table 7.1: Key Terms Used in Logic Models)

Table 7.1: Key Terms Used in Logic Models

Inputs and Processes	• What are the resources needed to implement the project/program? (Inputs) • What does the project/program developer plan to invest and put into the program? (Inputs)
Activities and Participation	• What are the policies and procedures that the project/program developer plan to put into place to effectively implement the program? (Processes) • Who does the project/program intend to reach with each activity? (Participation)
Outputs	• What are the tangible products, capacities, or deliverables that will result from the activities (implementation)?
Outcomes	• Changes that occur in other people or conditions because of the activities and outputs
Impacts	• What is the impact of the program? Short-term impact focuses on the learning that occurs from the project/program Medium-term impact focuses on actions that have resulted from the project/program Long-term impact focuses on the conditions that have changed as a result of the program/ project
Moderators	• What are the contextual factors that are out of the control of the program but may help or hinder the achievement of outcomes? Consider program priorities, assumptions, external factors, and evaluation plans

Sources: Centers for Disease Control and Prevention [CDC]. (2018, December 12). *Framework step 2 checklist*. Centers for

Disease Control and Prevention. Retrieved September 18, 2022, from https://www.cdc.gov/evaluation/steps/step2/index.htm; Doll, J. D. (2010). *Program development and grant writing in Occupational therapy: Making the connection*. Jones and Bartlett Publishers. (Refer to Appendix 7.A: Sample Logic Model: Community-Based Diabetes Prevention Program).

Concept Mapping

Concept mapping is a useful tool that can be used to define your theoretical framework and to visually display how it is applied to your capstone project's literature review. Basically, concept mapping is a process for representing and organizing ideas using pictures. The goal of a concept map is to simplify complex concepts using circles, boxes, and/or other shapes that are linked with arrows carrying explanatory legends that depict pictorial connections between ideas (Grant & Osonloo, 2016).

A concept map offers you an instrument to draw a plan for how you will approach your capstone project within a specific theoretical framework. First, you should review literature and organize key issues of interest related to your topic. These are the foundational concepts that support your chosen theory. Next, arrange your ideas in a hierarchical, logical structure. You can start with general ideas and funnel your thinking down to more specific, related topics and ideas. Each idea should have a clear purpose and significance in relation to the aggregate topic. Readers of your capstone project should begin to see a clear picture of your ideas by previewing the organization and identification of your key topics. Visual arrows and connectors should provide insight into how concepts are aligned and connected and illustrate the flow of ideas. Lastly, frame out

your entire map with your theoretical framework and your PIO/PICO question (Grant & Osonloo, 2016). Concept maps will help you write a clear literature review in an organized manner that is aligned with your chosen theoretical framework (Refer to Table 7.2: Items to be Included in a Literature Review Rooted in Theory).

Table 7.2: Items to be Included in a Literature Review Rooted in Theory

• A brief statement on your topic
• An introduction to the organization of your literature review
• Identification of your chosen theoretical framework: Define the theory, identify key theorists, history of theory
• Specification of key theoretical principles to be applied to your topic, organized around conceptual subheadings
• Identification of conflicts and controversies in the literature
• Identification of gaps in the existing literature
• In the last paragraph of this section, an explanation of how your proposed study connects to existing literature

Source: Grant, C. & Osanloo, A. (2016). Understanding, selecting, and integrating a theoretical framework in dissertation research: Creating the blueprint for your "house".

Administrative issues journal: connecting education, practice, and research, *4*(2),7.

The ability to construct a concept map illustrates two essential properties of understanding: the representation and the organization of ideas. A holistic view of your developing concept map will allow you to view concepts that may or may not fit with your theoretical framework. Your capstone instructors, and mentor can help you evaluate the feasibility of the theory, plan, and approach to your capstone project (Grant & Osonloo, 2016). (Refer to Appendix 7.B: Sample Concept Map: Person-Environment-Occupation Model).

Problem-Tree Analysis

Problem Tree Analysis provides a template for mapping causes and effects to better understand the chain of connected circumstances that led to a current issue, problem, or need. Using the tree as a metaphor, you separate the causes (roots) from the effects (branches) of a central issue (trunk). Problem Tree Analysis provides a structured way for you to identify concerns, discern causes from symptoms, and potentially frame problem statements in a clear manner. Problem Tree Analysis can help you:

- untangle complex problems
- reveal various causes and effects
- build a shared understanding
- provide a direction for problem-solving

Problem Tree Analysis, which is also known as a Situational analysis or Problem analysis is central in many forms of project and program planning (Luma Institute, 2021). (Refer to Table 7.3: Advantages of Problem Tree Analysis).

Table 7.3: Advantages of Problem Tree Analysis

• The problem can be broken down into manageable and definable chunks. This enables a clearer prioritization of factors and helps focus objectives
• There is more understanding of the problem, which may include interconnected or contradictory causes
• It identifies constituent issues and arguments and can help establish who and what the political actors and processes are at each stage
• It can help establish whether future information, evidence, or resources are needed to make a strong case, or build a persuasive solution
• Present issues, not future or past issues, are dealt with and identified
• The process of analysis often helps build a shared sense of purpose, understanding, and action

Source: *Planning tools: Problem tree analysis*. ODI. (2014, June 27). Retrieved September 18, 2022, from https://odi.org/en/publications/planning-tools-problem-tree-analysis/ (Refer to Appendix 7.C: Sample Problem Tree Analysis: Pediatric HIV)

Root Cause Analysis

Root cause analysis (RCA) is the process of discovering the root causes of problems to identify appropriate solutions. RCA assumes that it is much more effective to systematically prevent and solve for underlying issues rather than just treating unplanned symptoms and putting out fires. RCA can be performed with a collection of principles, techniques, and methodologies that can all be leveraged to identify the root cause of an event or trend. Looking beyond superficial cause and effect, RCA can show where processes or systems failed or caused an issue, problem, or need in the first place. Identifying the root causes of a problem, issue, or need helps in developing more effective strategies to overcome it (Guavera, 2022). There are three basic types of root causes that can have a potential impact on a problem, need, issue, or event:

1. Physical causes
2. Human causes
3. Organizational causes

The first goal of RCA is to discover the root cause of a problem, issue, need, or event. The second goal is to fully understand how to fix, compensate, or to learn from any underlying issues within the root cause. The third goal is to apply what we learn from this analysis to systematically prevent future issues or to repeat successes (*Root cause analysis explained: Definition, examples, and methods*. Tableau, n.d.).

There are several core principles that guide effective root cause analysis, some of which may be readily apparent while others may not (Refer to Table 7.4: Core Principles of Root Causes Analysis).

Table 7.4: Core Principles of Root Cause Analysis

• Focus on correcting and fixing root causes rather than just symptoms
• Don't ignore the importance of treating symptoms for short-term relief
• Realize there can be, and often are, multiple root causes
• Focus on HOW and WHY something happened, not WHO is responsible
• Provide enough information to inform a corrective course of action
• Consider how a root cause can be prevented, or replicated, in the future

Source: *Root cause analysis explained: Definition, examples, and methods*. Tableau. (n.d.). Retrieved September 18, 2022, from https://www.tableau.com/learn/articles/root-cause-analysis

It should be noted that RCA is not a one-size fits all methodology. Rather, there are many tools, processes, and techniques that can be used in conducting in RCAs. Regardless of the technique chosen, the process for Root Cause Analysis remains the same (Refer to Table 7.5: Root Cause Analysis Process).

It should be noted that RCA is not a one-size fits all methodology. Rather, there are many tools, processes, and techniques that can be used in conducting in RCAs. Regardless of the technique chosen, the process for Root

Cause Analysis remains the same (Refer to Table 7.5: Root Cause Analysis Process)

Table 7.5: Root Cause Analysis Process

Realize the problem	• How would you describe the problem, issue, need, or event? • What do you see happening? • What are the specific symptoms?
Gather data	• Retrieve all relevant and available data about the problem, issue, need, or event.
Determine possible causal factors	• A causal factor is a major unplanned event or undesirable situation. If eliminated, causal factors would have either prevented the incident from happening or reduced the risks and frequency.
Identify the root cause	• In this stage of the RCA, you would choose which root cause analysis tools you should use to discover the root causes of each identified causal factor.
Recommend and implement solutions	• Upon identifying the root cause, you can now recommend preventative measures to ensure that the problem won't happen again.

Source: Guevara, P. (2022, August 12). *Root cause analysis: Definition and examples*. SafetyCulture. Retrieved September 18, 2022, from https://safetyculture.com/topics/root-cause-analysis/(Refer to Appendix 7.D: Sample Root Cause Analysis: Fall-Related Injuries on Behavioral Health Unit)

Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis

A SWOT analysis is a high-level strategic planning model that helps organizations, programs, and/or other entities identify where they are doing well and where they can improve from both an internal and external perspective. A SWOT analysis can help you evaluate your business, program, or other entity by considering multiple factors:

- Strengths and weaknesses (represented as *internal factors).* Internal factors are considered things that can be controlled. Examples include team members, program content, and geographical location.
- Opportunities and threats (represented as *external factors).* External factors are considered things that cannot be controlled. Examples include policies and regulations, economic trends, and competitors.

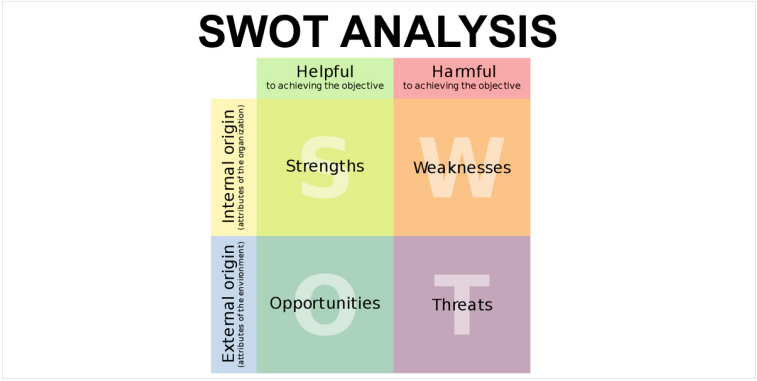
Students can use a SWOT analysis to plot out a future course for their capstone project that will focus on project strengths while minimizing risks. Insights you glean resulting from your SWOT analysis should be used constructively as part of the capstone planning process (Jackson, 2022).

How to Do a SWOT Analysis

Undertaking a SWOT analysis requires planning and organization. The following steps will take you through the process:

- Step 1: Create a SWOT Matrix (Refer to Figure 7.1: Sample SWOT Matrix)

Figure 7.1: Sample SWOT Matrix



Source: *Download free vectors, clipart graphics, Vector Art & design templates*. Vecteezy. (n.d.). Retrieved September 23, 2022, from https://www.vecteezy.com/free-vector/swot-analysis

- Step 2: Consider including community, program, and capstone project stakeholders. Including stakeholders input in a SWOT analysis can provide more insight as different perspectives can be considered (Jackson, 2022).
- Step 3: Lists your strengths
- Step 4: List your weaknesses
- Step 5: Identify your opportunities
- Step 6: Identify your potential threats
- Step 7: Examine your Matrix for connections

A SWOT analysis can help you with strategic planning for your capstone project and program development. This tool can help you define objectives, create priority initiatives to help make them a reality. Subsequently, a SWOT analysis can help

you to identify measures that help to ensure that your capstone project is unfolding optimally (Refer to Appendix 7.E: Sample SWOT Analysis for a Hospital).

Conclusion

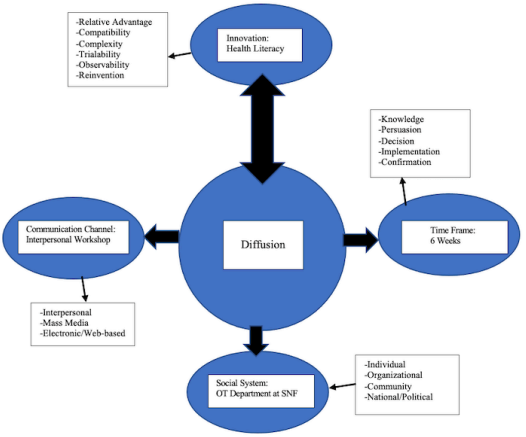
Logic models can be a valuable method for establishing capstone program planning, an implementation plan, and the outcomes or changes you hope to achieve (Doll, 2010). A concept map is an attempt to make explicit your program's connection with theory so that it can be reviewed by others. While concepts maps provide a visual representation of how you will approach your capstone project in the context of a specified theoretical framework, logic models provide a graphic depiction that presents the shared relationships among the resources, activities, outcomes, and outcomes/ impacts of your capstone project's identified need, problem, or issue. Problem Tree and Root Cause Analyses can help you with your capstone project by identifying how to approach a recognized problem, need, or issue. Finally, a SWOT analysis can be used to evaluate your capstone project by considering multiple internal and external factors that can facilitate effective program development while minimizing risks.

Case Study: Concept Map and SWOT Analysis

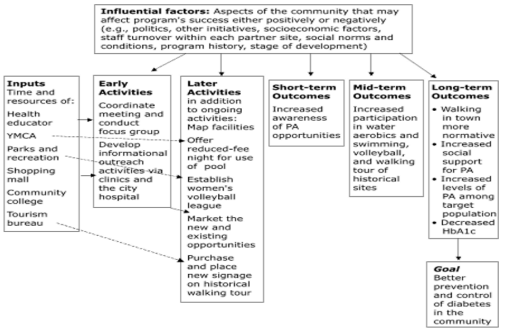
Glynn has continued to meet with their mentor, capstone instructor(s), the institution's statistician, and librarians.

The guiding theory for Glynn's research-based capstone project is the Diffusion of Innovations. After performing a literature search to specifically gain more information about this theory, Glynn created the following:

Concept Map: Diffusion of Innovations Theory: A Health Literacy Universal Precautions Workshop for OT Practitioners in a Skilled Nursing Facility (SNF)

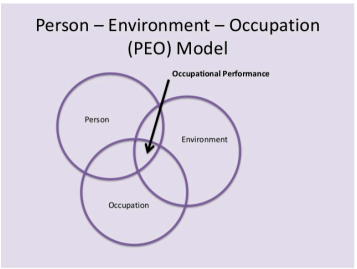


Appendix 7.A: Sample Logic Model: Community-Based Diabetes Prevention Program



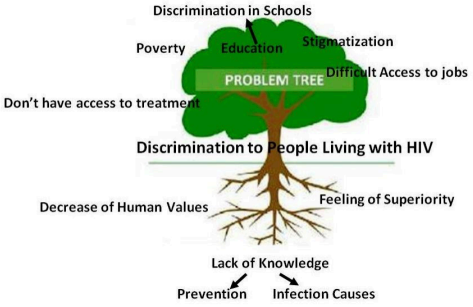
Source: Martin, S. L., & Heath, G. W. (2006). *A six-step model for evaluation of community-based physical activity programs*. Centers for Disease Control and Prevention. Retrieved September 18, 2022, from https://stacks.cdc.gov/view/cdc/4095

Appendix 7.B: Sample Concept Map: Person-Environment-Occupation Model



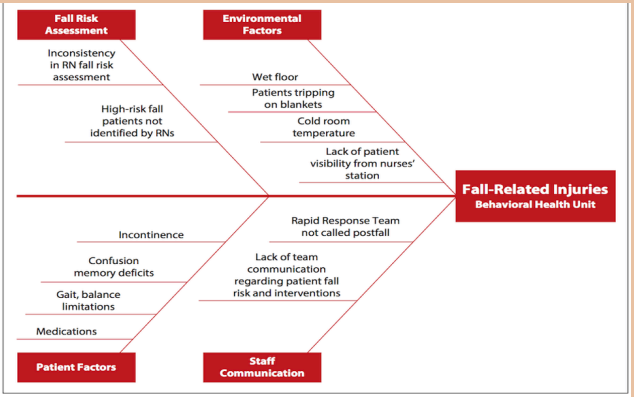
Source: Law, M., Cooper, B., Strong, S., Stewart, D., Rigby, P. & Letts, L. 1996. The Person-Environment-Occupation Model: A transactive approach to occupational performance. *Canadian Journal of Occupational Therapy*. 63(1):9-23.

Appendix 7.C: Sample Problem Tree Analysis: Discrimination to People Living with HIV



Source: Discrimination to People Living with HIV. n.d. Retrieved September 12, 2022, from http://1.bp.blogspot.com/_c2ujs8cYivk/S8O8kgBNqPI/AAAAAAAAACg/UPTL_3qO59Y/w1200-h630-p-k-no-nu/Problem+Tree+-+Alan.JPG

Appendix 7.D: Sample Root Cause Analysis Fishbone Diagram: Fall-Related Injuries in Behavioral Health Unit



Source: Todd, B. (2020, July 6). *Falls in behavioral health: different population, different risk factors*. Off the Charts. Retrieved September 18, 2022, from https://ajnoffthecharts.com/falls-in-behavioral-health-different-population-different-ris factors/

Appendix 7.E: Sample SWOT Analysis for a Hospital

Sample Strategic SWOT Analysis for a Hospital

Strengths	Weaknesses
• Design of the building. • Geographical location. • History and reputation. • Competent clinical staff members. • Comprehensive services.	• High turnover rates. • Poor internal communication. • Lack of a website (in the era of internet). • Many of the non-clinical staff members lack English language and computer skills. • Lack of any well-recognized accreditation.
Opportunities	**Threats**
• Acquiring a higher market share after being renovated and JCI-accredited. • An unsaturated market which can tolerate the opening of new branches and/or satellite clinics in strategic locations. • Affiliation with an American hospital /center /group and arrangement for periodic visits of its clinical experts.	• Potential competitors who will enter the market in the near future (whether local or international ones). • Increased power of the healthcare insurance companies which sent us more than 60% of the total cases admitted at our hospital last year.

Source: http://image.slidesharecdn.com/strategicplanningforhealthcareservices-13146088454752-phpapp02-110829041014-phpapp02/95/strategic-planning-for-healthcare-services-26-728.jpg?cb%5Cx3d1314597218

8. An Overview of the Institutional Review Board (IRB) and Memorandum of Understanding (MOU) Processes

Learning Objectives

By the end of this chapter, you will be able to:

1. Explain the purpose of an Institutional Review Board (IRB).
2. Describe the importance of Memorandums of Understanding (MOUs) for effective program implementation and collaboration.
3. Create an MOU for your specific or intended capstone project.

Overview

This chapter will begin with a brief introduction to the role and responsibilities of Institutional Review Boards (IRBs). The purpose of Memorandums of Understanding (MOUs) and the components of a well-developed MOU are provided. While not all capstone projects will require IRB approval prior to implementation, all capstone projects will require a n MOU. For this reason, it is important to reach out to your capstone instructors and mentor to ensure you are following the correct protocol for your capstone project.

Introduction

An IRB is a panel of professionals and lay people who are tasked with the safety of research conducted in community and clinical settings. Typically, IRBs exist within academic institutions, hospitals, and some community settings. The role of the IRB is to act as a protecting body for research-based capstone projects. Prior to conducting any kind of intervention, you must contact your capstone instructors and mentor to determine if your capstone project will require IRB approval prior to implementation. If required, it is important to contact the IRB and follow all proper procedures to secure approval prior to the implementation of your capstone project (Doll, 2010). Furthermore, to ensure a successful capstone project, it is important that all stakeholders involved in the capstone project are familiar with one another's roles, responsibilities, and expectations. A common method for documenting partnerships is the use of a n MOU. Simply, an MOU is an agreement between two parties outlining how each will work together. Creating and obtaining a signed MOU for

your capstone project, from all parties, should be completed prior to IRB approval and/or project implementation.

What is an Institutional Review Board (IRB)?

Under U. S. Food and Drug Administration (FDA) regulations, an Institutional Review Board (IRB) is an appropriately constituted group that has been formally designated to review and monitor research involving biomedical and other research involving human subjects. An IRB has the authority to approve, require modifications (to secure approval), or disapprove research. Therefore, IRBs serve an important role in the protection of the rights and welfare of human subjects (Office of the U.S. Food and Drug Administration [FDA], 1998).

IRB Size

According to federal regulations, the minimum number of people required for an IRB is five. The number of IRB members is contingent on the size of the institution and the IRB workload. Many schools and universities have multiple IRBs that specialize in particular types of research. For this reason, it is important for you to gather information about your institution's IRB and speak with your capstone instructors and mentor to determine if your capstone project will or will not require IRB approval.

IRB Composition

As stated above, an IRB must consist of a minimum of five members with varied backgrounds to facilitate diversity in its composition. Additionally, if federally funded research is being performed, an IRB should be composed of members with specific characteristics (Refer to Table 7.1: IRB Member Characteristics for Federally Funded Research-Based Capstone Projects)

Table 7.1: IRB Member Requirements for Federally Funded Research-based Capstone Projects

Scientific Area	At least one member must work in science (for example, Biology, Psychology, or Chemistry)
Nonscientific Area	At least one member must work in a non-science area (for example, History, English, Philosophy-or-a Lawyer, Clergyman, or Ethicist)
External to the Institution	One member must come from outside the institution and not be affiliated with the institution
Diversity of Representation	An effort must be made to achieve diversity of representation, particularly if members of "vulnerable populations" are often study subjects (for example, children, prisoners, and individuals with intellectual disabilities)
Diversity of Gender	The IRB should have, at least, male and female representation
Diversity of Profession	The IRB should not have representation from just one profession

Source: American Psychological Association [APA]. (2019, October). *Getting started: The Institutional Review Board College Planning Guide*. American Psychological Association. Retrieved September 11, 2022, from https://www.apa.org/ed/precollege/undergrad/ptacc/irb-college-guide/getting-started

The IRBs have the authority to approve, require modifications

to, or disapprove any research activities according to both federal regulations and school policies. For these reasons, it is important to become familiar with your School and/or Institutions general approval criteria that provide the decision framework within which an IRB operates (Touro University, n.d.). It is vital that you speak with your capstone instructors and mentor to determine if your capstone project will require IRB approval before implementation. Additionally, it is important for you to review your institution's IRB application system, so you have all information and supporting documents, such as a memorandum of understanding (MOU), as appendices prior to submitting. (Refer to Appendix 8.A: Sample IRB Application).

Memorandums of Understanding

Documentation of partnerships demonstrates a commitment and should be a component of your capstone project to demonstrate community/stakeholder collaboration. A common method of documenting evidence of partnership is the use of an MOU. An MOU is not a contract; rather, it is a written agreement between two entities outlining how each will work together during the capstone process. An MOU usually includes the following components:

- Names of the partners involved
- A brief history of the partnership (if applicable)
- A brief description of how the partners will work together
- The proposed activities of the partnership
- Signatures from representatives of all parties

MOUs provide formal documentation of each partner's responsibilities and the structure of the collaboration. MOUs

are commonly used in settings where contracts for services may not be necessary or applicable (Doll, 2010). (Refer to Appendix 7.B: Sample MOU).

Conclusion

An IRB is a panel of professionals and laypeople who examine the safety of research being conducted in clinical and community settings (Office of the U.S. Food and Drug Administration [FDA], 1998).

A memorandum of understanding is an agreement between two or more parties outlined in a formal document. The MOU can be seen as the starting point for the implementation of your capstone experience as it defines the scope and purpose of your project. Prior to conducting any sort of research-based capstone project, you will need to contact your capstone instructors and mentors to determine if IRB approval is necessary for you to move forward with your capstone project.

Case Study: MOU and IRB Application

Case Study: Selecting a Theoretical Framework

It has been determined that Glynn will require IRB approval from her educational institution prior to implementing the Health Literacy Universal Precautions Workshop at their partner skilled nursing facility (SNF). For this reason, Glynn is reviewing her educational institution's IRB application and meeting

with their mentor and capstone instructor(s) for further guidance with this process. Glynn will also contact the IRB directly with any questions. In preparing her IRB application, Glynn created an MOU. Once this MOU is signed by all parties, it will be kept in her capstone project file and will include a copy of it as an Appendix to her IRB application.

Glynn's MOU:

This MOU was placed on the facility's letterhead

Date

To Whom it May Concern,

This letter is to serve as permission for Glynn S*mith* to complete an evidence-based capstone project at Greenwich Woods Health Center, 1165 King Street, Greenwich, CT. 06831.

Specifically, Glynn Smith will be permitted to implement an evidence-based occupational therapy intervention with members of the Occupational Therapy Department at Greenwich Hills, who choose to volunteer. The evidence-based occupational therapy intervention will use elements of the Health Literacy Universal Precautions Toolkit to improve occupational therapists' working knowledge of health literacy and their self-perceived ability to identify, assess, and provide client-centered interventions for patients who may be low-health literate in order to improve outcomes. The project will begin in August 2017 and will run through October 2017. The intervention will take place in the Occupational Therapy Department of Greenwich Hills with Glynn Smith, 1x per week, for

approximately 45 minutes, during lunchtime, in a lunch-and-learn format.

I understand the purpose of this evidence-based capstone project is to determine if a health literacy workshop for occupational therapists incorporating elements of the Universal Precautions Toolkit can improve their working knowledge of health literacy, and increase their self-perceived ability to identify, assess, and implement client-centered interventions for patients identified as low health literate in order to improve outcomes.

Sincerely,

(Signature here)

John Doe, OTR/L

Director of Rehabilitation

Greenwich Woods Health Center

Signature of Glynn Smith: _____Date:_____

(A copy of this letter was kept on file by Glynn and provided to John Doe, Director of Rehab at Greenwich Woods Health Center).

Appendix 8.A: Sample IRB Application

TOURO UNIVERSITY

INSTITUTIONAL REVIEW BOARD APPLICATION

Please complete and *return* this form to: HSIRB@touro.edu (for proposals to the Health Sciences IRB) or IRB1@touro.edu (for proposals to IRB #1).

Exempt Proposal Information

Date Submitted to IRB:

IRB No. (for office use only)

School: Touro University, School of Health Sciences

Department/Program: Occupational Therapy

Principal Investigator:
Faculty Advisor: *(For TU Student Projects only)*

Name: **Name:**

Title: **Title:**

Touro University Email: **Touro University Email:**

Phone #:
Phone #:

Are you a:

Full-time Touro University Faculty Member or Student?

If the Faculty Advisor is *not* a Full-time Touro

University Faculty Member, ***a Touro University Full-time Faculty Member must have overall responsibility for the project and serve as the primary institutional point of contact. This person must be identified below*****:**

Responsible Faculty Member:

Name:

Title:

Touro University email:

Phone #:

Project Title:

Co-Principle (Co-PI) or Co-Investigator (Co-I)

Co-PI Co-I	Name:	Touro University Email:
	School/ Department:	Phone #:
Co-PI Co-I	Name:	Touro University Email:
	School/ Department:	Phone #:
Co-PI Co-I	Name:	Touro University Email:
	School/ Department:	Phone #:
Co-PI Co-I	Name:	Touro University Email:
	School/ Department:	Phone #:

1. **SPONSORED PROJECT:** If this study is being conducted under an externally sponsored project, please identify the sponsor(s); the proposal and/or award number(s); and the proposed or actual period(s) of performance associated with the project. If this study is being conducted under an intramural grant program, please provide the equivalent information.

1. **HUMAN SUBJECTS PROTECTIONS MANDATORY TRAINING CERTIFICATION:** Please check the applicable statement(s) below

regarding human subjects protection training certification. **[Note: IRB requirements for training can be found at:** *Mandatory Training in the Protection of Human Subjects*

____ All employees, or students, or consultants who will directly interact with human subjects participating in, or who have access to identifiable subject data collected for, this research project **have completed the required human subjects training and their certificates are attached.**

____ I/WE anticipate that at a later date there may be new employees, students, or consultants who will interact with human subjects participating in, or who will have access to identifiable subject data collected for, this study. If this occurs, **I/WE understand that these individuals must complete the required human subjects training and their certificates must be filed with the IRB prior to their involvement in the study.** When copies of those certifications are submitted to the IRB, I/WE understand I/WE must identify the IRB Exempt Proposal Number with which the certifications are associated.

1. **CONFLICT OF INTEREST:** Do any of the individuals working with subjects or identifiable data as part of this project have an actual or potential conflict of interest?

[ ] Yes [ ] No

If you have checked "Yes", please identify the

individual(s). **All individuals identified as having actual or potential conflicts of interest must contact the Touro University** Office of Institutional Compliance (OIC) **for appropriate guidance and/or action. IRB determination on this Request will be contingent upon OIC adjudication of any actual or potential conflict of interest.**

1. **EXEMPTION CATEGORY FOR PROPOSED RESEARCH PROJECT:**

Before completing this section, please carefully read the Exemption Categories (and exclusions) in the Exempt Review Proposal Guidance and Instructions. If you are uncertain whether the proposed project meets any of the exemption criteria, please consult with your IRB Chair **prior to submission** of this form.

NOTE: The Common Rule ***restricts applicability of Exempt Research*** to certain potential ***subject populations for whom additional protections are required***.

Prisoners: The exemptions cannot be applied to any research involving prisoners, *except* for research aimed at involving a broader subject population that *only incidentally* includes prisoners.

Children: *Categories (2)(i) and (ii):* These exemption criteria may only apply to projects with children as potential participants if the projects involve educational tests or the observation of public behavior when the investigator does not participate in the activities being observed. *Category (2)(iii) and*

Category (3): These criteria may not be applied to projects with children as potential participants.

PI Exemption Claim: Based upon my reading of the full exemption category descriptions contained in the federal regulations, I believe the (summary) exemption category checked below *best describes* my proposed research project.

(1) Research conducted in a commonly accepted educational setting. Involves normal educational practices, no adverse impact on student opportunity to learn, and no adverse impact on instructional providers.

(2) Research involving educational tests, surveys or interviews, or observation of public behavior (including visual or auditory recording), **if**: (i) subjects cannot be readily identified; (ii) disclosure outside the research will not generate risk; (iii) subjects can be readily identified from the recording, and a **limited IRB review will be made** to determine there are adequate provisions to protect the privacy of the subjects and the confidentiality of the data.

(3) Research involving benign **behavioral** interventions only with **adult** subjects who have agreed to participate. Moreover, the data will either be: (i) not subject identifiable nor put subjects at risk—or, in the case of identifiable data being collected, a **limited IRB review will be made** to determine there are adequate provisions to protect the privacy of the subjects and the confidentiality of the data; or, (ii) brief and harmless, and **exclude medical interventions**; or, (iii) in the case of research involving the deception of

subjects, collected only after subjects authorize use of deception.

(4) Secondary research using identifiable private information or identifiable biospecimens, **if:** (i) the information or biospecimens are publicly available; (ii) the data will not be recorded as identifiable and will not be re-identifiable; (iii) the identifiable health information used is regulated for purposes of "health care operations"; (iv) the research is conducted by or on behalf of the Federal government using government generated or collected data obtained for non-research studies.

(5) Research that is supported by (i.e., funded by) or subject to the approval of a federal agency and is designed to study, evaluate, or improve public benefit or service programs.

(6) A taste and food quality evaluation and consumer acceptance study.

(7) and (8) **NOT APPLICABLE**—ThesIs exemption categories only apply to research for which Broad Consent is required and the IRBs have not currently approved the use of Broad Consent at Touro University

1. **ATTACHMENTS REQUIRED FOR IRB REVIEW:** In order for the IRB to determine if an exemption claim is valid, the following items **must** be appended to this Request form ***in the order set forth below.***

Please submit all pertinent documents in Word.doc/docx format, *using Arial 11 or 12 point font* with single line spacing; documents that cannot be

submitted as a Word.doc/docx (e.g., published questionnaires or originally signed site approval letters) may be submitted in Adobe pdf format.

A *summary* statement that addresses the following key information (and, although concise, provides sufficient detail to aid in the IRB review process):

- The nature and structure of the research. Be sure to include clear descriptions of any issues regarding anonymity or confidentiality (including the means of recording and storing all information to ensure its anonymity), as well as any potential benefits/risks to subjects by virtue of their participation.

Benefits/Risk Ratio:

The benefits of participation in this study include increasing participants' knowledge in health literacy, increasing participants' confidence in their ability to identify and provide services to low-health literate patients, and enhancing their clinical skills. Participation in this health literacy workshop may help participants prepare for health care professional licensing exams. Through increased knowledge of and confidence with health literacy and health literacy universal precautions, participants may demonstrate the ability to promote health literacy in clinical and academic settings. This study benefits society by providing participants with an evidence-based, client-centered approach to clinical care, which can result in improved health

- The method of solicitation of subjects that is

planned, including the method and exact communication to be used when recruiting potential participants (letters, flyers, etc.).

- A description of the participant pool. Indicate if the potential participants are members of one of the designated "special populations" who are required to be provided additional protections (children; prisoners; and pregnant women, fetuses, and neonates), or who are considered to be particularly vulnerable to coercion or undue influence (children; prisoners; individuals with impaired decision-making capacity; and economically or educationally disadvantaged persons).
- A description of any compensation that might be offered to subjects.
- The estimated period of time for project data collection; and the estimated period of time for the project from commencement to completion, including time for analysis of data.
- A description of the consent process and a copy of any consent documents to be used. If the project will involve any deception regarding the nature or purpose of the research, a consent document must be included that reflects (1) each subject's understanding that his/her participation may involve his/her being unaware of or misled about the nature or purpose of the research and (2) his/her authorization of using such deception.
- Copies of any instruments/questionnaires that will be used with subjects, along with any other appropriate information about those instruments

(e.g., whether the instruments are validated and published; previously used, etc.).

- For secondary research projects, a description of the identifiable private information (including identifiable biospecimens).
- In the case of collaborative studies where Touro University is the lead institution, a copy of the Exempt approval from the IRB of the collaborating institution covers the human subjects research to be undertaken at that institution. Other relevant information may also need to be submitted depending upon the discussion held between the Touro University Principal Investigator and the IRB Chair or Vice Chair.

1. **PRINCIPAL INVESTIGATOR/FACULTY ADVISOR ASSURANCE:**

- As Principal Investigator, Co-Principal Investigator, Co-Investigator, or Faculty Advisor, I /WE certify that to the best of MY/OUR knowledge the information contained in all materials submitted to the IRB as part of this "Request for Exempt Review" are complete and accurate.
- I/WE agree to conduct the study as described and to comply with IRB and Touro University policies for conducting ethical research.
- Once Exempt status is confirmed by the IRB, I/ WE understand the approving IRB must be notified of any proposed changes to this research

project **that may have an impact on Exempt status**. Such changes include but are not limited to changes in procedures or collaborating investigators, or changes requested by a sponsor in the case of sponsored funded research. **No changes may proceed prior to IRB adjudication of the issue.**

- I/WE understand that any unexpected, adverse, or otherwise significant events in the course of this study will be reported promptly to the IRB.

PLEASE SIGN OR INSERT E-SIGNATURE(S) BELOW

Principal Investigator's Signature Date

Principal Investigator's Name (Print)

If the project involves Co-Principal Investigators/Co-Investigators, please have each person complete and sign the following section, duplicating the format for each individual.

Co-Principal Investigator's/Co-Investigator's (circle status) Signature Date

Co-Principal Investigator's/Co-Investigator's Name (Print)

Co-Principal Investigator's/Co-Investigator's (circle status)

Signature:
Date:

Co-Principal Investigator's/Co-Investigator's Name (Print):

Co-Principal Investigator's/Co-Investigator's (circle status)

Signature:
Date:

Co-Principal Investigator's/Co-Investigator's Name (Print):

References

Source: Touro University. (n.d.). *General criteria for IRB approval of Human Subjects Research proposals*. Retrieved September 25, 2022, from https://www.touro.edu/departments/tcny-research/human-subjects-research/hrsp-revised-common-rules/general-criteria-for-irb-approval-of–hsrp/

Appendix 8.B: Sample MOU(Please note that this MOU is fictional and for example purposes only)

This document constitutes a Memorandum of Understanding between *Jane Smith, Touro University OTD candidate,* and the *Community Response Team* regarding the *Suicide Prevention Plan.*

Jane Smith has established a partnership with the *Community Response Team* and a historical partnership with the community for more than 14 years. For purpose of the *Prevention Plan, Jane Smith* indicates a willingness to work with

the *Community Response Team* to address the critical issue of suicide prevention in the community.

Roles and Responsibilities

Jane Smith agrees to implement the following:

- Develop and implement an evidence-based and culturally relevant stress management program for the prevention of suicide
- Develop sensory rooms and a traveling sensory workshop for the purpose of stress management as a tool for suicide prevention in the local schools
- Conduct stress management workshops four times per year in the community
- Engage in planning and development as needed in partnership with the *Community Response Team*
- Provide training to *Community Response Team* staff and school staff in the stress management program for sustainability

Planning and Development Contact Person

- Jane Smith, OTR/L, Touro University, OTD candidate
- Touro staff/faculty PRN

Resources Provided by *Jane Smith:*

- The expertise of Jane Smith, who has an established relationship with the *Community Response Team,* and who has received training in collaboration with Touro University in the areas of program development and implementation

I hereby agree to fulfill my sections of this project, and I agree to abide by the terms and conditions contained in this MOU between *Jane Smith, Touro University, OTD Candidate* and the *Community Response Team*.

Signature: _____

Date: _____

Jane Smith

Signature: _____

Date:_____

Representative from Community Response Team

9. Promoting Your Capstone Project Using Social Marketing Techniques

Learning Objectives

By the end of this chapter, you will be able to:

1. Compare and contrast commercial and social marketing objectives.
2. Explain the role of social marketing in capstone project development and implementation.
3. Develop a small-scale marketing campaign for your capstone project.

Overview

This chapter describes how social marketing campaigns can be used to promote your capstone project and recruit participants. Although social marketing is usually targeted to large audiences the concepts of social marketing introduced in

this chapter can be used to promote your capstone project and encourage participant recruitment.

Introduction

One of the first steps in the capstone experience is to identify an overall group of people, also referred to as a population. Once a population is identified, you must devise a plan for subject selection, inviting members to participate. This process may involve written invitations, telephone calls, or personal contacts in a clinical setting. A key aspect of successful capstone implementation is the recruitment of participants. Without project participation, the program will fail; therefore, participant recruitment and retention must be considered during the capstone planning process. Within your MOU (Chapter 8) you will have outlined protocols and roles for stakeholders involved in your project. Developing a small-scale social marketing campaign will bring awareness of your project to the target community. A small-scale social marketing campaign should take into account the services being provided, who will benefit from the services, and who needs to know about the services. All necessary venues and stakeholders, such as partners, advisory boards, coalitions, community members, and participants should be considered. Social marketing will create project awareness that will spark stakeholder interest and participation (Doll, 2010).

Commercial Marketing versus Social Marketing

In general, marketing is the process of getting potential clients

or customers interested in your products or services. While commercial marketing consists of efforts to promote and sell products profitably, social marketing has a non-profit motive and utilizes commercial marketing principles for non-profit purposes, such as informing and educating consumers and stakeholders about collective social issues (Nasrudin, 2022). Although social and commercial marketing are both considered client-centered strategies that focus their research on a specific audience to understand behaviors, they can be distinguished in several ways. (Refer to Table 9.1: Commercial versus Social Marketing).

Table 9.1: Commercial versus Social Marketing

	Commercial Marketing	Social Marketing
Focus	Focuses on goods and services	Focuses on behavior
Adopters	Companies	Populations, communities, charities, and other non-profit organizations
Purpose	To make a profit by selling a product	To influence behavior and to educate consumers about collective social issues
Target	Consumers who are willing to buy products to satisfy their needs and wants	Individuals with whom we want to change a behavior
Source of Funds	Privately funded	Funded from external organizations such as donations from donors or the government
Marketing Strategy	Less attention is given to marketing ethics when developing strategies. The main considerations are revenue and cost	Developing a strategy by promoting ethics and moral values. The primary consideration in developing a strategy is social impact. Marketing requires the involvement of stakeholders such as influencers, public advocacy, and communities
Impact Speed	Often fast as customers are often willing to line up to get a new product	Slower because it relates to thought patterns and behaviors (can take years)

Source: Nasrudin, A. (2022, April 14). *Commercial marketing: How it works, different from social marketing*. Pension. Retrieved September 30, 2022, from https://penpoin.com/commercial-marketing/

Social Marketing in Healthcare

Social marketing is the application of proven concepts and techniques drawn from the commercial sector to promote changes in diverse socially important behaviors, such as drug use and smoking. Therefore, social marketing is widely used to influence health behavior. Social marketers use a wide range of health communication strategies based on mass media. Social marketers also use mediated, interpersonal, and other modes of communication; and marketing methods such as message placement, promotion, dissemination, and community-level outreach initiatives (Evans, 2006). For students developing a capstone project with a target population, social marketing techniques can be used for program promotion and participant recruitment.

A Small-Scale Social Marketing Approach to Capstone Project Promotion and Participant Recruitment

Why?

Social marketing will help you reach your target audience. This approach encourages you to thoroughly examine who you want to influence, and how to sway them most effectively.

When?

Although this will depend on your project, it is helpful when you are trying to change the behavior of a group, population, or community. Social marketing techniques can be used for program promotion, participant recruitment, and program sustainability.

Developing a Small-Scale Social Marketing Campaign

In the context of capstone projects, a social marketing campaign can be considered a philosophy that will direct how you approach your capstone project before and after implementation. This does not mean that you must have a lot of money to make this work. If you are excited about your capstone project and willing to put in the effort needed to make it work, social marketing can help you reach desired outcomes (Center for Community Health and Development at the University of Kansas, 2022). (Refer to Table 9.2: Managing a Small-Scale Social Marketing Campaign)

Table 9.2: Strategies for Developing Your Small-Scale Social Marketing Campaign

Define the Problem, Issue, or Need	Chapter 3 of this book: Review your guiding question(s)
Define your Project's Goal	Chapters 3 and 4 of this book
Define your Target Audience	Chapter 3 of this book: Review your guiding questions (s)
Understand your Audience	Chapter 3 of this book: This can be facilitated by performing an Epidemiological Assessment of your population
Create your Intervention	Chapters 3, 4, and 5 of this book
Design a Message Appropriate for your Population and Project	Chapter 8 of this book: This can be facilitated by reviewing your Epidemiological Assessment and Intervention
Select Channels of Communication	Chapters 8 and 9 of this book: This is the time to brainstorm the best methods of disseminating your project's information to stakeholders
Determine if IRB Approval is Necessary	Chapter 8 of this book
Disseminate the Information	Chapters 9 and 10 of this book: Once you have received approval from your capstone instructors, mentor, and/or IRB it is time to promote your program and recruit participants

Conclusion

Dissemination of project information, such as development of a small-scale marketing campaign, is an important consideration for effective program awareness, implementation, and sustainability. Effective small-scale marketing campaigns should consider the services being provided, who will benefit from the services, and what stakeholders need to know about the services that are being offered. Dissemination of information through social

marketing can help to create community awareness regarding an important problem, issue, or need. Small scale social marketing campaigns should be thoughtful and strategized processes because without stakeholder support, a program will not succeed or thrive.

Case Study:

Creating a Social Marketing Campaign for the Capstone Project: A Health Literacy Workshop for Occupational Therapists Incorporating Elements of the Universal Precautions Toolkit

Glynn has created a marketing flyer to spur interest and participation in her workshop. Glynn has included this flyer as an Appendix to her IRB application. Once IRB approval is secured, Glynn will distribute this flyer within the skilled nursing facility. Glynn will also make herself available to answer any questions stakeholders may have in reference to her project:

OCCUPATIONAL THERAPY DEPARTMENT MEMBERS INVITED TO PARTICIPATE IN A TOURO UNIVERSITY CAPSTONE PROJECT

A HEALTH LITERACY WORKSHOP, INCORPORATING ELEMENTS OF THE HEALTH LITERACY UNIVERSAL PRECAUTIONS TOOLKIT, TO PROVIDE EFFECTIVE CLIENT-CENTERED SERVICES AND IMPROVE OUTCOMES

You are invited to participate in a contemporary, relevant, and important capstone project. This project will determine if a health literacy workshop can improve health care professionals' working knowledge of health literacy, and their self-perceived ability to identify, assess, and provide effective client-centered interventions in order to improve outcomes for low-health literate patients.

Benefits:

- Improved Working Knowledge of Health Literacy
- Increased Skill to Identify, Assess, and Provide Client-Centered Services to Low-Health Literate Patients
- Improved Patient Outcomes
- Participants will receive Certificates of Completion from Touro University=18 CEU's
- There is NO Cost!

You may be eligible to participate if you:

- are a Member of the OT Department
- can Commit to a 6-Module Workshop
- 2 sessions per Modules 1-5
- all Modules provided in a Lunch & Learn format at Greenwich Woods!

Participants will be asked to:

- Complete a Pre- and-Post Intervention Survey
- Complete a Brief Pre- and Post-Intervention Health Literacy Quiz
- Complete a Plan-Do-Act-Study Worksheet Modules 1-5

If you are interested in participating in this workshop, or would like more information regarding this project, please contact:
Glynn, MSA, OTR/L
OTD Candidate, Touro University
Email address:
Telephone #:

IF YOU ARE INTERESTED IN PARTICIPATING, PLEASE JOIN ME ON MONDAY, DATE, 12:15-12:45 IN THE OT DEPARTMENT AT GREENWICH WOODS FOR A MEET AND GREET, Q & A PERIOD, OR CONTACT ME AT YOUR CONVENIENCE

10. Beyond the Capstone Project: Dissemination of Information and Sustainability

Learning Objectives

By the end of this chapter, you will be able to:

1. Develop a plan for the dissemination of information related to their capstone project.
2. Describe how the dissemination of information relates to sustainability.
3. Plan for sustainability related to their capstone project.

Overview

This final chapter emphasizes the importance of dissemination of information based on your completed capstone project. The

relationship between information dissemination and sustainability is also explained. Although there is no specific model that can guarantee sustainability, and there are multiple ways to address sustainability, this chapter concentrates on information dissemination as a key component of capstone sustainability.

Introduction

At the culmination of your capstone experience, you have successfully performed a needs assessment, fine-tuned the focus for your capstone project, and documented the process and findings that resulted from all your hard work. Although you may consider your capstone experience over once you have received your passing grade, it is important for you to recognize the expertise that you have gained by undergoing this unique experience. Now is the time to develop a dissemination plan so you can share important information and knowledge you have gained from your capstone experience to other professionals not only within your area of practice but to other stakeholders.

Upon finalization of your capstone project, you should take time to reflect on the insight you have gained by working with a community organization, understanding the needs of a specific group or population, and recognizing issues of occupational justice, evidence-based practice, and effective policy and procedure planning. By disseminating your scholarly work, you can help other clinicians learn and provide clients with innovative treatment planning and service models. By disseminating your work, you can also help organizations understand the important role your profession plays within the healthcare arena, and the impact they can have on patient care and outcomes (DeLuliis & Bednarski, 2020).

This is your opportunity to become an agent of change!

Disseminating Your Scholarly Work

There are many methods of disseminating your scholarly work. Categories of dissemination include but are not limited to clinical, academic, and professional organizations, the Internet, conferences, and symposiums, continuing education venues, collaboration with community organizations, institutional repositories, peer-reviewed publications, consumer-driven publications, organizational policy, and legislative initiatives. Furthermore, dissemination of your findings can occur locally, nationally, and/or internationally using a variety of presentation platforms, based on your dissemination goals (Refer to Table 10.1: Dissemination and Presentation Platforms for Capstone Projects

Table 10.1: Dissemination and Presentation Platforms for Capstone Projects

Platform	Description
Oral Presentations	A live presentation to an audience that is physically present in the same location as the presenter
Poster Presentations	Creation of an eye-catching vertical display, including a combination of texts, figures, and/or graphics aimed at demonstrating the results of your capstone project
Internet Presentations	Web-based presentations are presented synchronously and/or asynchronously
Publishing your Work	Develop a manuscript for publication in a peer-reviewed or consumer-driven publication
Developing a Grant Proposal	An extension of the capstone project that can be used to support and enhance program development and practice initiatives with funding
Developing a Business Proposal	A sophisticated sales and marketing piece you develop to define a client's problem and/or opportunities and to sell stakeholders on your ability to provide solutions and strategies to their satisfaction

Oral Presentations

Oral presentations can follow a lecture format; however, oral presentations may also include but are not limited to demonstrations of techniques or equipment, individual or group learning activities, interactive discussions or brainstorming, case studies, and hands-on learning experiences. Lectures are most often used with larger audiences where increased audience interaction is not practical, or when the goal of dissemination is to share technical or straightforward information. Presentations that employ more interactive methods such as demonstrations,

discussions, or hands-on learning experiences are typically less formal, and audiences are usually smaller in size and less engaged. Oral presentations are often accompanied by handouts, overhead displays, and/or PowerPoint slides. When preparing your oral presentation be sure that the visual elements that you decide to use to enhance your presentation support and/or enhance your spoken words, and do not take their place (Baily, Hissong, & Lape, 2015).

Poster Presentations

Poster presentations often occur at professional conferences academic presentations and meetings, where many posters may be displayed for a specific period of time. It is also common for the creator(s) of the poster to be physically present to discuss the poster. Poster presentations are an effective way of disseminating information about your project, eliciting feedback from others before expanding the project, or seeking publication and networking with others. Poster presentations also provide an opportunity for first-time conference presenters because the poster presentation format may be considered less formal and intimidating than an oral presentation (Bailey, et al., 2015).

Internet Presentations (Webinars)

Internet presentations refer to any web-based presentation that may be delivered synchronously (in real-time) or asynchronously (the presentation is pre-recorded, and the attendees can access it online when it is convenient for them). Creating a web-based presentation is similar to creating an oral

presentation as both platforms must consider the audience, the amount of information to include, and how the material will be presented. Visual aids can also be used with internet presentations to support or enhance the message being conveyed (Bailey, et al., 2015).

Publishing your Scholarly Work

The mechanism of disseminating your scholarly findings via manuscript development and publication is perhaps the most expected and, I argue, the most rewarding aspect of your capstone experience. This is an opportunity for you to inform stakeholders, policymakers, and even the general public about the findings of your project. Furthermore, this is a great opportunity to expand your professional research and writing skills and to build your resume and/or Biosketch for future employment or funding opportunities (Bailey, et al., 2015; Doll, 2010).

Peer-Reviewed Journal Articles

Peer-reviewed journals are publications that contain articles authored by one or more experts in a particular field or topic area to confirm each article's quality before acceptance for publication. The publication process for peer-reviewed journals is often very rigorous with multiple revisions required over long periods of time. The goals of most peer-reviewed journal articles are to disseminate information on quality research or evidence-based practice (Bailey, et al., 2015; O'Dell, 2014). (Refer to Table 10.2: Key Points to Consider for Peer-Reviewed Journal Manuscript Submission).

Table 10.2: Key Points to Consider for Peer-Review Journal Manuscript Submission

• Select the professional publication that best reflects the direction of your capstone project
• Review the instructions for authors to ensure that your manuscript meets the specifications of the journal
• Maintain communication with the journal editor to ensure that all required information has been submitted
• If changes or modifications are recommended, address each recommendation completely

Source: O'Dell, D. G. (2014). Implementation and dissemination of DNP Practice scholarship. *DNP Capstone Projects*, 171–181. https://doi.org/10.1891/9780826130266.0014

Consumer-Driven Publications

In contrast to the structured format required for peer-reviewed journal articles, the format for consumer-driven articles allows for greater flexibility and creativity. Submitting to commercial publications can deliver information to the general public and to people who can directly benefit from your capstone information. There is a large diversity of consumer publications covering health promotion, disease-specific issues, health lifestyle, and self-help topics (Bailey, et al., 2015: O'Dell, 2014). (Refer to Table 10.3: Key Points to Consider for Consumer-Driven Manuscript Submission).

Table 10.3: Key Points to Consider for Consumer-Driven Manuscript Submission

Does the publication address a publication that could benefit from your capstone project?
Consider the length of articles in selected consumer publications
Consider reaching out to published journalists of consumer publications to review the value of a specific topic to the target population for a publication
Establish rapport with editorial teams, share your expertise

Source: O'Dell, D. G. (2014). Implementation and dissemination of DNP Practice scholarship. *DNP Capstone Projects*, 171–181. https://doi.org/10.1891/9780826130266.0014

Traditional vs. Open-Access Journals

Prior to the Internet, the *traditional* market for scholarly journal publication was the primary method of disseminating high-quality, evidence-based research relevant to academic institutions and fields of study. Traditional journals are primarily funded by subscriptions and advertisements. Reader access is due to personal subscription or because the reader is affiliated with an institution that maintains an institutional subscription. The rapid growth of the Internet and the advantages of this medium over traditional communication formats in terms of speed, flexibility, and reach have made the electronic dissemination of research findings and other relevant information a formidable alternative to traditional journals. Conversely, *open-access* refers to the practice of scholarly journals, individual scholars, and academic publishers offering free access to articles and book excerpts via the Internet. Currently, the scholarly publishing market supports both the traditional and open-access platforms, with both platforms, at times, coexisting within the same publisher (Frankland & Ray, 2017).

While advances in technology have lowered costs associated with publishing and expanded access to information on the Internet, these advances have also created external costs in the form of unreliable or fraudulent research and information.

Additionally, predatory for-profit open-access journals may have exorbitant publication fees, which could be an indicator of poor quality, as publication fees can be considered a source of income for the open-access journal. In this vein, an increased quantity of publications, regardless of quality, would result in an increase in open-access journal income (Frankland & Ray, 2017). For these reasons, it is important for you to contact your Institution's library to determine the databases you can use to:

- Obtain more information about a journal you are considering for manuscript submission
- Determine if a journal is peer-reviewed and legitimate
- Evaluate a journal's relative importance by viewing their Impact Factor: *a measure of the frequency with which the "average article" in a journal has been cited in a particular year. It is calculated by dividing the number of current citations to articles published in the previous two years by the total number of articles published in the previous two previous* (U.S. Department of Health and Human Services, n.d.)
- Establish if a journal has passed strict standards of credibility
- Discover and compare journals similar to the one you are interested in

If you have not done so already, this is great time to contact your Institution's Library System for support and assist with this important aspect of manuscript publication.

Grant Writing for Funding

A grant is an award, usually financial, that is given by one entity to an individual or a company to facilitate a goal or incentivized program. Although grants may differ based on the source, the application process require similar demands on your time and resources (Bailey, et al., 2015). (Refer to Table 10.3: Key Points for Developing a Grant Proposal).

Table 10.3: Key Points for Developing a Grant Proposal

• Recognize the mission of your project's targeted funding source
• Determine if the funding organization's mission and requirements align with those of your project
• Do not apply for a grant that is going to compromise the process or outcomes of what YOU want to accomplish
• Network and keep detailed notes throughout the grant process: who is giving you the required information and where you are obtaining information to support the mission of the grant

Source: Bailey, D. M., Hissong, A. N., & Lape, J. E. (2015). *Bailey's research for the Health Professional* (3rd ed.). F.A. Davis Company.

When gathering information to support the components of a grant, start by utilizing what you have already written in your capstone project. Start with your abstract and then look at your literature review. You will find that many of the answers to questions within the grant applications can be copied and pasted and fine-tuned from the comprehensive work that you have already accomplished. Grant proposals include most of the components that are also used in capstone development: understanding the population/community, identifying a problem, issue, or need, identifying a potential solution to address the problem, issue, or need, conducting a comprehensive needs assessment, drafting an evaluation plan and implementing your solution. The skills and competencies you have acquired throughout your capstone experience will

help you be successful in the grant-writing process (Bailey, et al., 2015: O'Dell, 2014).

Developing a Business Proposal

Now that you have finished your capstone project, you may have an opportunity to develop and promote it as a business, or part of a business entity, such as a continuing education venue. A business proposal is a sophisticated sales and marketing piece that you develop to define a client's (your population's) problem and/or opportunities and to demonstrate to a potential client your ability to provide evidence-based solutions and strategies to their satisfaction (Hamper & Baugh, 2011). (Refer to Table 10.4: Business Proposal Categories).

Table 10.4: Business Proposal Categories

Category	Description
Internal	Usually written within a company by a particular division, department, group, or individual to persuade top management to support an idea or project
Solicited	Sometimes a company, or individual is formally invited to submit a proposal. The client has a particular project or problem and is looking for outside help to get the job done
Unsolicited	This is a way to generate new business; however, it is the riskiest to write. You may have developed a new program or concept; however, clients have not requested the proposal; therefore, you are competing with a client's internal operations and other businesses for the client's attention and acceptance
Sole-Source	In some instances, a government agency, private firm, or association will contract with only one company to supply a product or service. The format is often standardized and requires detailed information about the product, services, and prices. If a request for a proposal (RFP) indicates that it is targeted at a specific company, you would have little to no chance of winning the contract. Therefore, in this instance, it would not be wise to submit a proposal

Source: Hamper, R. J., & Baugh, L. S. (2011). *Handbook for writing proposals* (2nd ed.). McGraw-Hill.

Writing effective proposals is an important skill for winning business in today's competitive business environment. Although a step-by-step guide on how to write an effective business proposal is beyond the scope of this guidebook your completed capstone project can help you to develop a winning business proposal, should you choose this path. It is important to remember that the main objective of your proposal is to convince the client or stakeholders that you, or your firm, are uniquely qualified to do the job. From your client's perspective, proposals make it possible to evaluate the skills and capabilities of a select range of firms, or individuals, and to choose the best for the job (Hamper & Baugh, 2011). (Refer to Table 10.5: Elements of a Winning Business Proposal).

Table 10.5: Elements of a Winning Business Proposal

Element	Description
Evidence that you clearly understand the client's problem and situation	Your capstone's Needs Assessment, Project Background, and Literature Review should help you determine if you can address your client's needs Additional research may be necessary
A strategy and program plan or design that the client feels will solve the problem and produce the desired result	Your capstone project's outcomes can be used to clearly state what benefits clients will gain by accepting your solutions
Clear documentation of your qualifications and capabilities for carrying out the plan	Your current resume and bio sketch can be used to demonstrate your expertise and ability to accomplish the work better than anyone else
Evidence that your firm is reliable and dependable	You would include references and other stakeholder contacts who can vouch for you
A convincing reason why the client should choose you over other competitors for the job	You should highlight your program plan and your expertise in the field
Be sure your proposal looks like a winner	Just like your completed capstone project, your proposal should have a cover, title page, format, and graphics that convey your passion, spirit, and professionalism. In addition to grammar and spell checks, take the time to proofread your proposal

Designing Your Capstone for Dissemination and Sustainability

Designing your capstone project for dissemination and sustainability refers to the principles and methods for enhancing the fit between a health program, policy, or practice

and the context in which it is intended to be adopted (Kwan, Brownson, Glasgow, Morrato & Luke, 2022). It is important to remember that sustainability is a key implementation outcome. To promote program sustainability and resilience, the dissemination of knowledge acquired throughout your capstone experience is vital.

Conclusion

Performing doctoral scholarly work is admirable; however, the completion of the project itself is not enough to truly demonstrate the potential of your doctorate degree. As the number of allied health students with doctoral degrees increases, the probability that healthcare outcomes will improve also increases. However, these improvements can only take place with the dissemination of information based on your evidence, experiences, and the knowledge gained by your capstone experience (O'Dell, 2014). Sustainable programs are successful programs: well designed and complementary to both the community and its needs and capacities. Dissemination of your capstone outcomes will exemplify the impact your program has made and will contribute to continued stakeholder buy-in.

Case Study: Sustainability Planning and Dissemination of Information

- Glynn has completed her written capstone

project. Part of Glynn's OTD program requirements was to complete an Oral Presentation and Poster Presentation on their capstone project. This was also successfully completed. Glynn successfully obtained their OTD and is now employed as an Associate Professor in a well-known university setting.

- It is now 5 years status-post capstone project completion. The following are the results, to date, of Glynn's dissemination and sustainability planning:

December 2017: Final Capstone Project: A Health Literacy Workshop for Occupational Therapists Incorporating Elements of the Universal Precautions Toolkit

-Written Product

-Oral Presentation to University Stakeholders

-Poster Presentation to University Stakeholders

Dissemination and Sustainability Plan Results

Publications

2020: U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality: Impact Case Study, New York occupational therapy program promotes health literacy with AHRQ's toolkit. https://www.ahrq.gov/news/newsroom/case-studies/202002.html

2019: Workshop series for occupational therapists using the US agency for healthcare research and quality's health literacy universal precautions toolkit

and other supported tools. Health Education Journal, 78(4), 451–463. https://doi.org/10.1177/0017896918820067

2019: Health literacy: A universal call to action, *Journal of Psychology and Mental Health Care,* Doi: 10.31579/ 2637-8892.19/011

2018: Developing a sustainable level II occupational therapy fieldwork program in a juvenile detention center, *OT Practice Magazine,* http://www.aota.org

2018: Workshop series for occupational therapists using the US agency for healthcare research and quality's health literacy universal precautions toolkit and other supported tools, *Health Education Journal: Online First*, https://journals.sagepub.com/doi/full/10.1177/0017896918820067#

2018: Health literacy: Pure and simple, *Annals of Physiotherapy & Occupational Therapy, 1*(2): 000109

2018: U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality: Impact Case Study, AHRQ Toolkit Helps Connecticut Rehab Center Boost Health Literacy Skills. https://www.ahrq.gov/news/newsroom/case-studies/201805.html?utm_source=201805&utm_medium=en&utm_term=&utm_content=20&utm_campaign=ahrq_ics_2018

2018: U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality, News Now Newsletter, Issue 27, Featured Impact Case Study: AHRQ Toolkit Helps Connecticut Rehab Center Boost Health Literacy Skills. https://www.ahrq.gov/news/newsletters/e-newsletter/627.html

Grants

2020: The Dean's Annual Seed Grant, Touro College, School of Health Sciences, Occupational Therapy Program, New York, NY ($2,500)

Further Research

2021: "A Health Literacy Universal Precautions Workshop for Touro College School of Health Sciences Students." Principal Investigator and Faculty Mentor

2020: "Cutting Through Medical Jargon: A Health Literacy Universal Precautions Workshop for Third-Year OT Students." Principal Investigator and Faculty Mentor

2019: "A Health Literacy Universal Precautions Workshop for Touro College OT Students in Manhattan." Principal Investigator and Faculty Mentor, Occupational Therapy Program, Touro College, NY.

Presentations

2019: Poster: "A health literacy universal precautions workshop for OT students." Coauthors: T. Rosen & T. Hoffman. Annual Conference, New York State Occupational Therapy Association (NYSOTA), Palisades, New York

2019: Oral Presentation: "Health literacy universal precautions in OT practice." Dr. Janet Falk-Kessler (JFK) Distinguished Lectureship and Day of Scholarship, Columbia University, New York, NY

2018: Oral Presentation: "Designing a framework for a health literacy workshop incorporating elements of the universal precautions toolkit." Annual Conference, NYSOTA, Palisades, NY

2018: Poster: “A health literacy workshop for occupational therapists incorporating elements of the universal precaution’s toolkit.: Annual Conference, AOTA, Salt Lake City, Utah

Academic Course Curriculum

2020: OTHN 602: Advanced Fieldwork Elective: A Health Literacy Workshop (Creator and Instructor)

Epilogue

I consider the journey of my life a tapestry of memories. The paths I have chosen to explore during the capstone process have contributed to my personal and professional development. Whether perceived as positive or negative, the ventured pathways represent threads that have contributed to my fabric of *me*. The past 16 months as an OTD student has added yet another colorful strand to this significant work in progress. This fiber represents the complexities, yet sincerity associated with the new knowledge I have obtained because of my OTD program and the implementation of my capstone project. Although at times rocky and somewhat unsteady, I will be forever grateful for the wealth of information I have obtained and the diverse group of individuals I have met along this chosen route. The color and range of possibilities this achievement has added to my tapestry of life are magnificent! Although bittersweet, it is time to ramble on. My goal now is to pursue new opportunities provided by this experience and to share what I have learned through my 16-month OTD venture with a diverse number of individuals, communities, and populations. It is my hope that I can provide them with the support and guidance needed to pursue the path of occupational justice, whatever that may be, and wherever that may lead. After all, no thread of experience, whether good or bad, is wasted. Rather, it adds to the remarkable beauty of a tapestry in progress.

To be continued.....

Glynn Smith, OTD

"Though the roads been rocky, it sure feels good to me"
-Bob Marley

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