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Embedded Librarianship and Student Success in Graduate Nursing Programs

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by

Jennifer Marie Brady

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A Dissertation submitted to the Education Faculty of Lindenwood University in partial fulfillment of the requirements for the degree of

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Jennifer M. Brady

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Declaration of Originality

I do hereby declare and attest to the fact that this is an original study based solely upon my own scholarly work at Lindenwood University and that I have not submitted it for any other college or university course or degree.

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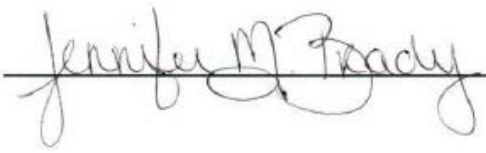
Signature:  Date: January 13, 2021

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Abstract

The academic library's contribution to the institutional mission and goals is something library administrators have been striving to communicate to administrators since 2010 when the Association of College and Research Libraries (ACRL) released their report entitled *The Value of Academic Libraries*. The purpose of this study was to evaluate how students perceive and report their usage of the academic library and to determine if students demonstrate a higher level of information literacy competency at the completion of a course including an embedded librarian compared to students without access to an embedded librarian. Library survey responses were evaluated for frequency of answers based on student perceptions of library value as well as reportage of library use. The mean scale score growth was evaluated for students enrolled in either the Spring 2019 nursing research course or the Spring 2020 nursing research course for both the matrix assignment (MA) and the final assignment (FA). The population for this study consisted of 3,500 eligible undergraduate and graduate students enrolled in a private, four-year liberal arts university in Missouri during the Spring 2020 semester. The literature reviewed for the study supports the implementation of the embedded librarianship model within nursing programs in order to increase student success. Although the data did not reveal a significant difference in results based upon the presence of an embedded librarian, the students expressed increased self-efficacy and overall course grades improved.

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Chapter One: Introduction

Information is everywhere; in a digital age, the constant barrage of new and constantly changing input can be overwhelming (Biando Edwards, 2018; Ewing, 2019). For some, processing information is part of the daily routine, and it is easy to tell the difference between fact-based information and misinformation or disinformation (Biando Edwards, 2018; Ewing, 2019; Waltz et al., 2020). For others, however, the act of working through constant information overload can be overwhelming, making it difficult to tell what information is good, solid, and trustworthy and what might have started from a place of truth but has since become misinformation or disinformation (Biando Edwards, 2018; Ewing, 2019; Waltz et al., 2020). Finding and evaluating information is the first step to becoming information literate (American Library Association, 1989, 2013, 2015).

Chapter One includes the background of information literacy, an introduction to the information literacy framework, and the problem statement of the study. The purpose of this study and research questions are identified. The significance of the study and key terms are delineated. Finally, the delimitations, limitations, and assumptions of the study are outlined.

Background of the Study

In 1989, the American Library Association's Presidential Committee on Information Literacy ushered in the Information Age with the challenge of "storing, organizing, and accessing the ever-growing tidal wave of information" (para. 1). Institutional leaders are currently seeking information about how higher education library administrators are actively supporting student success (Association of College and Research Libraries [ACRL], 2010; Murray & Ireland, 2018). In 2010, the ACRL began to

answer the challenge to “document and articulate the value of academic and research libraries and their contributions to institutional mission and goals” in their initial report entitled *The Value of Academic Libraries* (p. 6). Since this challenge, library administrators have been collecting data linking the use of physical resources and library spaces to student success (ACRL, 2010, 2015; Allen, 2014; Massengale et al., 2016; Millea et al., 2018). Although librarians and other library employees perceive the relationship among library material usage, door counts, and student success, library employees struggle to collect definitive data to present to administrators connecting information literacy sessions with student success (ACRL, 2015; Allen, 2014; Massengale et al., 2016; Murray & Ireland, 2017, 2018).

In 2015, the ACRL created the new *Framework for Information Literacy for Higher Education*, commonly known as *The Framework* (American Library Association, 2015). *The Framework* is a set of six core concepts around which information literacy curricula are designed; included is the need for collaboration between teaching faculty, the content experts, and librarians, the research experts (American Library Association, 2015). *The Framework* standards provide a solid structure for librarian educators; however, the standards do not address the specific needs of nursing curricula including many of the accreditation requirements presented by the American Association of Colleges of Nursing, which led to the development of the *Information Literacy Competency Standards for Nursing* in 2013 (American Library Association, 2013; Phelps, 2013).

Information literacy and the concept of being an information-literate individual were brought to the forefront of society with the ushering in of the Information Age in the

late 1980s (American Library Association, 1989). According to the ACRL (2010), the large number of information literacy-centric works focused on academic library-related student learning outcomes has stymied the establishment of best practices. The ACRL (2010) argued a longitudinal study following the same students from entry to graduation would provide the best learning outcome and library value data; however, academic librarians are not only interested in following students and their progress but want to become an active part of the learning process.

Consequently, the library liaison model is being put aside in favor of collaboration with faculty, or an embedded librarian model, in which the librarian works with the teaching faculty to "develop thoughtful assignments and provide online instructional materials that are built into key courses within a curriculum and provide scaffolding to help students develop library research skills over the course of their academic careers" (Jaguszewski & Williams, 2013, p. 6). Nursing faculty are especially in favor of nursing curriculum collaboration between teaching faculty, the content experts, and librarians, the research experts, to support students through a scaffolded, viable, and achievable ACRL-aligned literacy program (American Library Association, 2013; Wissinger et al., 2018). Therefore, it would be beneficial to know if students are able to demonstrate a higher level of information literacy competency at the completion of a course in which there is an embedded librarian.

Conceptual Framework

The conceptual framework deemed appropriate for this study is the *Framework for Information Literacy for Higher Education*, known as *The Framework,* developed by the ACRL (2015). *The Framework* is based on a concept outlined by Wiggins and

McTighe, which “focuses on essential concepts and questions in developing curricula, as well as threshold concepts which holds that ideas in any discipline are passageways or portals to enlarged understanding or ways of thinking and practicing within that discipline” (American Library Association, 2015, para. 2). *The Framework* was developed following a Delphi study that revealed several information literacy concepts used to develop the following six core frames: authority is constructed and contextual, information creation as a process, information has value, research as inquiry, scholarship as conversation, and searching as strategic exploration (American Library Association, 2015).

Information literacy sessions have historically followed either the on-demand model, often referred to as the one-shot, where librarians are invited into the classroom by faculty members on an as-needed basis, or the recently popular information literacy model, where information literacy is taught in a standalone credit-bearing course (Biando Edwards, 2018; Reale, 2016). Hess (2018) and Reale (2016) outlined how librarians in the information literacy model are excluded from the process of developing meaningful assignments with measurable outcomes, which creates minimal learning opportunities for students. Therefore, a model focused on collaboration between faculty and librarians was developed in several large research institutions such as UCLA, Duke, and Purdue (Arp et al., 2006; Jaguszewski & Williams, 2013; Miller & Neyer, 2016; Wissinger et al., 2018). Due to the model’s success the model has been implemented in more institutions (Arp et al., 2006; Jaguszewski & Williams, 2013; Miller & Neyer, 2016; Wissinger et al., 2018). Consequently, the current movement is toward “information literacy support, which is

both embedded within the course curriculum and delivered… online" and away from traditional one-shot sessions (Russell et al., 2018, p. 949).

Statement of the Problem

Are students who have not had an education in information literacy capable of conducting relevant, accurate research? Teaching faculty in graduate programs are dissatisfied with the quality of research students conduct for their coursework and struggle to effectively communicate to students what it means to be information literate (Arp et al., 2006; Jaguszewski & Williams, 2013). These issues have led to discussions among faculty in higher education about how to increase the quality of student research and about whether conducting relevant research intrinsically equates to students being information literate (Arp et al., 2006; Jaguszewski & Williams, 2013). This is especially prevalent in graduate health science and nursing programs where learning to conduct research is one of the main focuses (Benjes-Small & Miller, 2017; Ullah & Ameen, 2019). The literature reveals students are being admitted with a lack of information literacy competencies, or the ability to effectively access and use required resources within their fields (Benjes-Small & Miller, 2017; Ullah & Ameen, 2019).

The ACRL *Information Literacy Competency Standards for Nursing* "were established to provide guidance for designed learning activities that have the goal of equipping nurses with the necessary competencies" (Wissinger et al., 2018, p. 316). The establishment of these standards led Phelps et al. (2015), among other advocates of collaboration, to recommend:

> Adopting the standards within academic nursing programs at the earliest level possible and through a variety of stakeholders is the most effective strategy for

> ensuring that nurses are given the tools they need to utilize evidence in their professional practices. (p. 278)

The development of these standards and the desire for student success led to an instructional model where teaching faculty and embedded librarians are partners in the classroom, communicating and collaborating on curriculum, pedagogical norms, and assessment (Arp et al., 2006; Jaguszewski & Williams, 2013; Miller & Neyer, 2016). Despite this new instructional model, there is a gap in the research relevant to nursing programs that utilize an embedded librarian and the resulting quality of research output (Benjes-Small & Miller, 2017; Ullah & Ameen, 2019).

Purpose of the Study

The focus on embedded librarianship, or faculty-librarian collaboration in the classroom, was chosen for several reasons. One-shot information literacy sessions are the traditional way students have learned about the research process and the resources available in academic libraries; however, based on instructor feedback, the one-shot sessions are ineffective (Benjes-Small & Miller, 2017; Ullah & Ameen, 2019). Graduate students, especially those in research-heavy courses, struggle to retain the information disseminated by the librarian in a one-shot session during the first week of a course (Miller & Neyer, 2016; Stevens et al., 2019; Ullah & Ameen, 2019). It would be beneficial to know if students are able to demonstrate a higher level of information literacy competency at the completion of a course including an embedded librarian.

Research Questions and Hypotheses

The following research questions and hypotheses guided the study:

1. What are the perceptions of students regarding library services at one private, four-year liberal arts university in Missouri?

2. At what levels do the students of a private, four-year liberal arts university in Missouri report their library usage?

3. What difference, if any, exists between students' ability to critically evaluate information in a graduate nursing course where there is an embedded librarian versus similar students' ability to critically evaluate information in a graduate nursing course where there is not an embedded librarian?

$H3_0$: There is no difference in the mean of students' ability to critically evaluate information in a graduate nursing course with an embedded librarian.

$H3_a$: There is a difference in the mean of students' ability to critically evaluate information in a graduate nursing course with an embedded librarian.

4. What difference, if any, exists between the final assignment grade in a graduate nursing course where there is an embedded librarian versus a similar final assignment grade in a graduate nursing course where there is not an embedded librarian?

$H4_0$: There is no significant difference in the mean scores of the final assignment based upon an embedded librarian in a graduate nursing course.

$H4_a$: There is a significant difference in the mean scores of the final assignment based upon an embedded librarian in a graduate nursing course.

Significance of the Study

University library administrators, especially those in large research institutions, are moving away from utilizing information specialists and toward embedded librarians,

or faculty-librarian collaboration (Hensley & Davis-Kahl, 2017; Wissinger et al., 2018). The budget cuts that affect every department in higher education also affect libraries, causing staff to evaluate how to reduce programs, resources, and even personnel, while still demonstrating the value of a department that does not graduate students (ACRL, 2010; Murray & Ireland, 2018). Therefore, correlating results such as increased student success, higher grade-point averages (GPAs), increased student persistence and retention, higher graduation rates, and better job placements to library usage demonstrates the value of the department (ACRL, 2015; Gaha et al., 2018; Soria et al., 2017). Almost no previous research exists on the correlation of an embedded librarian in graduate nursing programs and the student success rate (Benjes-Small & Miller, 2017; Ullah & Ameen, 2019). This research has practical applications, not only to demonstrate value for this four-year liberal arts university in Missouri, but also to use as a model for embedded librarian models in other graduate nursing programs.

Definition of Key Terms

For the purposes of this study, the following terms are defined:

Collaboration

Reale (2018) defined collaboration as "an essential connection between two or more parties who share a common goal and work toward achieving that goal in the most cooperative way possible" (p. 49).

Efficient and Effectively-Designed Search Strategies

An efficient and effectively-designed search strategy is the ability to identify and implement appropriate keywords, synonyms, and related terms to construct and navigate

strategically designed approaches to search diverse resources across multiple interfaces (American Library Association, 2013).

Embedded Librarianship

An embedded librarian works collaboratively with teaching faculty to develop and disseminate assignments, assessments, and instruction within a curriculum (ACRL, 2010; Arp et al., 2006; Hess, 2018; Jaguszewski & Williams, 2013).

Information Literate

According to the American Library Association (1989), "An information literate person is one who can recognize when information is needed and has the ability to locate, evaluate, and use the needed information effectively" (para. 3).

Integration

Integration refers to a librarian taking or being given an active role in curriculum development, course execution, and sustained interaction with students (Arp et al., 2006).

Persistence

Persistence is the integration of a student both academically and socially at a single institution until graduation (Allen, 2014; Murray & Ireland, 2017).

Retention

For this study, retention is defined as working to keep students at an institution until graduation and can include factors such as student/faculty ratios, services and programs, and specific academic courses offered (Allen, 2014; Murray & Ireland, 2017).

Delimitations, Limitations, and Assumptions

The scope of the study was bounded by the following delimitations:

Time Frame

A descriptive survey was disseminated during the Spring 2020 semester, and causal-comparative analysis was conducted on grades collected from the Spring 2019 nursing research course and the Spring 2020 nursing research course.

Location of the Study

This study included secondary data from a private, four-year liberal arts university in Missouri.

Sample

The sample for the descriptive survey was comprised of individuals who elected to participate from the Spring 2020 student population of undergraduate and graduate students at a private, four-year liberal arts university in Missouri.

The portion of this study involving causal-comparative analysis included comparison of the mean scale scores of two groups of students: students enrolled in the Spring 2019 nursing research course without an embedded librarian and students enrolled in the Spring 2020 nursing research course with an embedded librarian. All students in these courses who completed all of their assignments met participation criteria.

Criteria

Students enrolled at the private, four-year liberal arts university in Missouri during the Spring 2020 semester who self-identified as being under the age of 18 were ineligible to participate in the survey.

The following limitations were identified in this study:

Population and Sample

The study was limited by both the population size and the sample size. Additionally, it was limited by the viewpoints of the sample size participants. A longitudinal study would have allowed for a larger sample size, as well as a more diverse population. Additionally, the survey was released in the time of a global pandemic, thereby limiting the number of individuals participating.

Bias

The researcher is the subject specialist librarian appointed to the college in which the study was conducted and cares deeply about students becoming responsible information-literate individuals, which creates a bias. The self-reported data collected from the participants can be biased, as individuals often perceive themselves in a particular manner.

The following assumptions were accepted:

1. The responses of participants were offered honestly and without bias.
2. Participants participated willingly and without coercion.

Summary

Higher education library administrators are faced with the challenge of demonstrating how they contribute to student success and to the mission of the institutions in which they serve (ACRL, 2010). Teaching faculty struggle to effectively communicate to students the concept of what it takes to be an information-literate individual (Arp et al., 2006; Jaguszewski & Williams, 2013). Courses involving a collaborative partnership between teaching faculty and librarians result in increased student success rates, which serves the needs of the teaching faculty and helps

demonstrate how librarians contribute to student success and the mission of the institution (Alverson et al., 2019; Soria et al., 2017). The purpose of this study was to determine if there is a significant difference between the embedded librarianship model in graduate education courses and the students' information literacy competencies.

Chapter One included background on information literacy, an introduction to the information literacy framework, and the problem statement that drove the study. The purpose of the study and research questions were identified. The significance of the study was explained, and key terms were defined. Finally, the delimitations, limitations, and assumptions of the study were outlined.

Chapter Two includes an examination of the problem driving the study. A review of literature including the conceptual framework is provided. Other main headings included are the value of academic libraries, information literacy instruction, the embedded librarianship model, and barriers to the embedded librarianship model.

Chapter Two: Review of Literature

In 1989, the American Library Association's Presidential Committee on Information Literacy ushered in the Information Age with the challenge of "storing, organizing, and accessing the ever-growing tidal wave of information" (p. 1). Since, administrators of academic libraries in higher education institutions have been increasingly pressed to demonstrate their contribution to student success, as well as their department's value to the mission of the institutions (ACRL, 2010). Meanwhile, teaching faculty struggle to effectively communicate to students what it means to be information literate (Arp et al., 2006; Jaguszewski & Williams, 2013). Courses involving both teaching faculty and librarians in a collaborative partnership have increased student success rates versus courses in which an on-demand information literacy model is implemented (Alverson et al., 2019; Soria et al., 2017).

Chapter Two begins with a restatement of the problem addressed in the study and a more thorough examination of the conceptual framework that guided this study. A review of literature follows focused on the value of academic libraries and information literacy instruction especially in relationship to a graduate nursing program. Finally, a review of the embedded librarianship model and barriers to the embedded librarianship model are provided.

Problem Statement and Overview

Students conducting research for graduate coursework are submitting subpar coursework to their instructors (Arp et al., 2006; Jaguszewski & Williams, 2013). Teaching faculty and library collaborators wonder if students know what it means to be information literate, and if, without proper information literacy instruction, students can

conduct relevant, accurate research that intrinsically equates to being information-literate individuals (Arp et al., 2006; Jaguszewski & Williams, 2013). These issues are especially prevalent in graduate health science and nursing programs where one of the main focuses is to master the ability to conduct research, yet the literature revealed students are being admitted with a lack of information literacy competencies (Benjes-Small & Miller, 2017; Ullah & Ameen, 2019).

From *The Framework*, the ACRL *Information Literacy Competency Standards for Nursing* are "based on disciplinary standards for accreditation and library standards for information literacy" (Phelps, 2013, p. 112). The integration of the ACRL *Information Literacy Competency Standards for Nursing* into academic nursing programs ensures nurses from the "associate-level student to the bedside nurse to the nurse researcher, and from the novice learner to the expert… are given the tools they need to utilize evidence in the professional practices" (Phelps et al., 2015, p. 278). Out of the desire to increase student success and incorporate the new ACRL *Information Literacy Competency Standards for Nursing*, a partnership was formed where teaching faculty and librarians collaborate on curriculum, pedagogical norms, and assessment – creating the embedded librarian (Arp et al., 2006; Jaguszewski & Williams, 2013; Miller & Neyer, 2016). Despite this new instructional model, there is a gap in the research regarding graduate nursing programs with an embedded librarian and the quality of the resulting research output (Stevens et al., 2019; Ullah & Ameen, 2019).

Conceptual Framework

The responsibilities of a higher education librarian vary from collaborating on curriculum, pedagogical norms, and assessment to create a cohesive information literacy

curriculum to identifying fundamental concepts within their realm of knowledge that expand student learning (American Library Association, 2015). This flexibility is characteristic of *The Framework,* the appropriate conceptual framework choice for this study. *The Framework* "grows out of a belief that information literacy as an educational reform movement will realize its potential only through a richer, more complex set of core ideas" (American Library Association, 2015, p. 7). As information is created, organized, and retrieved, *The Framework* helps learners develop ever-evolving information literacy skills and interaction with a constant influx of new information (American Library Association, 2015; Hess, 2018).

The Framework was designed to support the need for collaboration among teaching faculty, librarians, and students (Jo & Ha, 2019; Wissinger et al., 2018). The concept of *The Framework* is that learners "needed to focus on ways of thinking about and understanding information rather than a set processes learners needed to follow to find and use information" (Hess, 2018, p. 7). Students often have trouble understanding that learned information literacy competencies are useful and applicable outside of academic settings (Biando Edwards, 2018; Ewing, 2019). Now that information literacy is addressed as a concept versus a process, librarians had to change how they taught information literacy sessions (Hess, 2018; Scull, 2017).

Information literacy sessions have historically followed the one-shot model, or the information literacy model, wherein information literacy is taught in a standalone credit-bearing course (Biando Edwards, 2018; Reale, 2016). The one-shot model is viewed by librarians as episodic and haphazard, difficult to sustain, and with minimal learning opportunities (Reale, 2016). Biando Edwards (2018) and Reale (2016) outlined how

librarians in one-shot models are excluded from the process of developing meaningful assignments with measurable outcomes, which limits learning opportunities for students. One-shot models are traditionally never aligned to measurable outcomes, or if they are, they are aligned to the outdated ACRL Standards, which were established in 2000 and process-based, and later replaced with *The Framework* (American Library Association, 2015).

To enhance student success and overall effectiveness, institutions have begun focusing on information literacy collaborations between faculty and librarians, as well as including information literacy in institutional outcomes (Arp et al., 2006; Jaguszewski & Williams, 2013; Miller & Neyer, 2016; Phelps et al., 2015; Wissinger et al., 2018). These collaborations have become known as the embedded librarian model, in which subject experts and librarians collaborate to create scaffolded instruction, aligned with *The Framework* or the *Information Literacy Competency Standards for Nursing*, to facilitate increased student success (Miller & Neyer, 2016; Reale, 2016; Wissinger et al., 2018). By tying scaffolded instruction to the standards, measurable information literacy competencies are provided to various stakeholders, which demonstrates the value of the program, the library, and the collaboration (Phelps, 2013; Wissinger et al., 2018).

Value of Academic Libraries

Institutional administrators seek evidence of value from higher education libraries; although libraries were once considered the heart of an institution, they are now expected to demonstrate how they actively assist in student success (ACRL, 2010; Cheng & Hoffman, 2020; Cox, 2018; Murray & Ireland, 2018). However, the definition of value differs greatly depending on perspective, intent, impact, investment, and use (ACRL,

2010, 2015; Murray & Ireland, 2017). Therefore, the ACRL (2010) identified five possible definitions for value when referencing academic libraries in their *Value of Academic Libraries* report: use, return-on-investment, production of a commodity, library impact, and competing alternatives (pp. 20–22).

In 2016, the Ithaka S+R invited library deans and directors of four-year non-profit academic institutions in the United States to participate in a library survey regarding leadership issues (Wolff-Eisenberg, 2017). One of the critical findings Wolff-Eisenberg (2017) reported in the *2017 Ithaka S+R US Library Survey Report* is that of the 722 responses received from library directors and deans across the U.S., approximately eight in 10 listed their most-important priority as supporting student success, yet only half reported knowing how to articulate the library's contribution to said success (p. 3). As Cox (2018) asserted, "All of this has significant implications for how libraries operate in their institutions in terms of strategy, space, structures, partnerships, and identity" (p. 220). This review of literature is focused on two of the five possible definitions for value identified by the ACRL (2010): how the library demonstrates its financial value, or return-on-investment, and how the library demonstrates its impact value, or library value (pp. 20–22).

Financial Value

Institutional administrators want to know that budgets and financial resources are being handled in a fiscally responsible manner and how the library contributes to the overall financial resources of the institution through grants and endowments (ACRL, 2010; Murray & Ireland, 2018). Furthermore, institutional administrators need to know how the money allocated to the library translates into the overall education endeavor

(ACRL, 2010; Murray & Ireland, 2018). According to the ACRL (2010), the return-on-investment value, also referred to as the cost/benefit analysis, is based on the following formula:

$$Library\ Value = \frac{Perceived\ Benefits}{Perceived\ Costs}$$

(p. 20). Regarding stakeholders and library users, the perceived costs in this equation include price, time, and effort (Day, 1994, as cited in ACRL, 2010). The return-on-investment value is difficult for many in academia to articulate, as it is hard to place a value on immaterial goods such as information; therefore, administrators are likely to grossly undervalue immaterial goods compared to material goods (ACRL, 2010; Murray & Ireland, 2017). One of the ways a return-on-investment value can be communicated is through contribution to student retention and persistence (ACRL, 2010; Beile et al., 2020; Murray & Ireland, 2017).

Allen (2014) noted, “Students’ perceptions of how well their institution supports the learning process can predict a student’s likelihood of persisting in college” (p. 10). In addition, “a 10% increase per student in library funding is correlated to a 1.77% increase in graduation rates” (Bell, 2007, as cited in Allen, 2014, p. 10). Other researchers discovered institutions with a higher ratio of professional library staff to full-time students had a higher ratio of student graduation rates, student retention, and student persistence (Croxton & Moore, 2020; Murray & Ireland, 2017; Schwieder & Hinchliffe, 2018). Additionally, a welcoming, inclusive environment and more library staff on hand to provide opportunities for assistance and interactions with students contribute to engagement, which translates to students who are more likely to persist to graduation (Croxton & Moore, 2020; Soria et al., 2017).

Students who use at least one library resource have significantly greater odds of retention (Allen, 2014; Beile et al., 2020; Soria et al., 2017). Which library resource the students use does not appear to influence retention so much as the interaction itself (Beile et al., 2020). As Beile et al. (2020) noted, “Students tended to engage [repeatedly] with the library at one [resource] but did not venture beyond that to explore additional library services” (p. 442). Consistent use of library resources can also result in a long-term impact, instilling a belief the student is a scholar who belongs at the institution, resulting in student persistence and retention (Beile et al., 2020; Soria et al., 2017).

Due to privacy concerns of collecting identifiable student data surrounding certain usage statistics, it has been difficult to correlate a library’s precise impact on student retention and persistence (Allen, 2014; Beile et al., 2020; Murray & Ireland, 2017). For example, librarians struggle with the concept of collecting certain data points that would provide student-specific information because of possible patron privacy violations and a concern of infringing on the American Library Association Code of Ethics (Beile et al., 2020; Croxton & Moore, 2020). Tools such as proxy servers help fulfill this research need for library administrators and other stakeholders by automating data collection, but are not yet functional on their own (Beile et al., 2020; Croxton & Moore, 2020). Proxy servers are a tool that can assist in collecting student record data to assist with in-depth analysis as long as resources and cross-departmental provisions are allocated, such as information technology (IT) support and institutional review board (IRB) approval (Beile et al., 2020; Cleverley & Heeson, 2019). By working together to collaborate and build a student engagement and data institutional repository, collaboration between departments and stakeholders can focus on compiling resources for greater student success (Beile et

al., 2020; Croxton & Moore, 2020; Schwieder & Hinchliffe, 2018). According to Beile et al. (2020):

> …With the growing body of evidence that students who engage with library services and resources enjoy better academic outcomes… libraries should strongly consider placing library interaction data into an enterprise data warehouse and advocate for inclusion in institutional learning analytics efforts. (p. 452)

The financial value of the library, or how the library contributes to student retention and persistence, is only one possible definition of value identified by the ACRL (2010) in the *Value of Academic Libraries* report. The next ACRL (2010) definition of value to be examined is how the library staff demonstrates its impact value, or the library value (pp. 2022).

Impact Value

The most common way library administrators currently compile data to report value is through use, which includes input and output statistics such as overall item checkouts, physical visits to the library, meeting room usage, and research sessions (ACRL, 2010; Massengale et al., 2016). These types of statistical numbers are easily collected without identifiable information, making them readily available to provide to internal or external stakeholders (Massengale et al., 2016; Soria et al., 2017). Despite those who work in libraries recognizing the relationship among library materials usage, door counts, and increased student success, these numbers are difficult to align with an institutional mission, thereby mitigating the perceived value to stakeholders (ACRL, 2015; Allen, 2014; Massengale et al., 2016; Murray & Ireland, 2017, 2018).

Students utilize the physical academic library for different reasons based on their needs at the moment – for some, it may be a quiet place to study; for others, it could be the resources the library has to offer (Massengale et al., 2016; Soria et al., 2017). Students who have been surveyed while resources or library spaces are unavailable have disclosed they did not realize how much they used the physical library and the resources until they were unavailable (Elrod, 2019; Wong, 2019; Young & Kelly, 2018). Students self-reported they value library spaces and resources, such as interlibrary loans, journals, and databases, believing them to have a positive correlation to completing their coursework and being critical to success (Schwieder & Hinchliffe, 2018; Scoulas & Groote, 2019).

Additionally, Soria et al. (2017) indicated when students spend time in the library, they are engaged with the learning process due to making use of resources and utilizing the library staff. Shao and Purpur (2016) asserted:

> …The academic library helps students develop transferable skills such as critical thinking and effective communication, which are much needed for their education and career. In this sense, the library has become an integral part of student learning, development, and success. (p. 674)

Students who use the library are more likely than their academic counterparts who do not use the library to engage and develop advanced academic skills such as synthesis and integration of multiple facts and ideas from various sources into their writing and coursework (Gaha et al., 2018; Monsivais & Robbins, 2020; Soria et al., 2017). Students who use library resources more frequently are more likely to hand in assignments to their instructors that meet the requirements outlined on rubrics, resulting in greater course

success and translating to higher overall GPAs (Croxton & Moore, 2020; Schwieder & Hinchliffe, 2018; Scoulas & Groote, 2019; Soria et al., 2017). Scoulas and Groote (2019) argued:

> …Most of the library resources (e.g., journal articles, databases, print books, electronic books, subject course guides, and special collections) are positively associated with student GPAs, suggesting that as a student's GPA increases, their use of resources such as journal articles and databases also increases. (p. 12)

Students who are frequent library users are able to apply course material to other aspects of their lives, such as work experience, which makes them highly desirable new hires (Murray & Ireland, 2018; Soria et al., 2017). However, Murray and Ireland (2018) found in their study of how provosts perceive libraries and their contribution to student success, that of the 937 responding provosts/chief academic officers from public and private colleges and universities in the United States, 90.24% felt the library was only somewhat/marginal/or not involved with the high-impact educational practice of preparing students for internships and life after degrees (p. 342). It is therefore more important than ever for library administrators to align their department goals with the mission and vision of the institution, helping to demonstrate their value and promoting themselves as collaborators, while maintaining their distinctive identity as an independent department (Cox, 2018).

Information Literacy Instruction

The concept of being an information-literate individual was brought to the forefront of society with the ushering in of the Information Age in the late 1980s (American Library Association, 1989). The term information literacy is widely attributed

to Paul Zurkowski, the former president of the Information Industry Association (Stebbing et al., 2019). Since then, the term information literacy has been used in the documents of multiple accrediting bodies (Stebbing et al., 2019). The ACRL, building on the definition of an information-literate person by Paul Zurkowski, designed *The Framework*:

> [To] open the way for librarians, faculty, and other institutional partners to redesign instruction sessions, assignments, courses, and even curricula; to connect information literacy with student success initiatives; to collaborate on pedagogical research and involve students themselves in that research; and to create wider conversations about student learning, the scholarship of teaching and learning, and the assessment of learning on local campuses and beyond. (American Library Association, 2015, para. 5)

According to Shao and Purpur (2016), *The Framework* utilizes "higher-order intellectual skills required for academic, professional and personal development success" that overlap with critical thinking and information literacy skills competencies (p. 670).

Instructors have expressed a balance "is needed between the amount of guidance provided… and encouragement to independence, inquisitiveness, and engagement with the wider literature" (Interview 20, as cited in Stebbing et al., 2019, p. 31). Seemingly, "[students] come in pretty much expecting to have stuff given to them" (Interview 12, as cited in Stebbing et al., 2019, p. 31). The long-held but false assumption by higher education instructors is that individuals entering the classroom should have a basic understanding of how to interact with information – how to think critically, how to analyze content, and how to conduct research (Biando Edwards, 2018; Ewing, 2019;

Gregory, 2018; Ullah & Ameen, 2019). Traditional higher education information literacy sessions have been limited to a one-shot session, and are often an hour or less of contact time, severely restricting the opportunity for skills to be developed beyond remembering and understanding knowledge, the first two levels of Bloom's Taxonomy (Biando Edwards, 2018; Stebbing et al., 2019). Despite the low level of learning opportunities and since "the content of the session is often tied to a specific course project with learning outcomes that can hopefully be applied more broadly beyond that course or assignment", many librarians still operate under the one-shot model as that is their only invitation into classrooms (Girven, 2017, p. 915).

Stebbing et al. (2019) and Gregory (2018) argued students who experience limited interaction with the library, do not have access to, or do not take advantage of research consultations and guidance from full-time faculty librarians may experience lower self-efficacy. However, students who are introduced to the librarian through information literacy instruction are more likely to utilize the library and library resources, increasing their success rates, which increases their persistence and retention (Biando Edwards, 2018; Croxton & Moore, 2020). Without effective collaboration between teaching faculty and librarians, students are often unaware of resources available to them outside of course-assigned readings and experience library anxiety (Ewing, 2019; Girven, 2017; Krishnamurthy & Wood, 2018; Scull, 2017).

There is an overlap between information literacy and digital literacy, or the process of finding online information; librarians are the common connection between the two and are familiar with working in digital environments and assisting students with technology (Burke & Tumbleson, 2016; Sharun & Smith, 2020). In addition to students,

librarians are uniquely positioned to help overwhelmed faculty members and instructional designers develop and implement digital literacy resources, increasing educator self-efficacy (Russell et al., 2018; Sharun & Smith, 2020). Russell et al. (2018) and Sharun and Smith (2020) emphasized faculty and librarian collaboration about information and digital literacy curriculum content, especially in online classrooms, increases student engagement and retention as students will seek the guidance of their instructors in addition to librarians.

Information Literacy in Nursing Programs

Critical to any profession based on evidence-based practice is information literacy (Miller & Neyer, 2016; Phelps, 2013; Phelps et al., 2015). After the establishment of the *Information Literacy Competency Standards in Higher Education* by the ACRL in 2000, subject-liaison librarians started noticing a need for discipline-specific guidelines to adequately address the unique information needs of the fields in which they work, such as nursing and health sciences (Phelps, 2013; Smith, 2019). The *Information Literacy Competency Standards for Nursing* were developed based upon the information literacy library standards and the nursing accreditation standards and were approved by the ACRL Board of Directors in 2013 (American Library Association, 2013; Phelps, 2013).

According to the ACRL (2015), the *Information Literacy Competency Standards for Nursing* were designed to outline the information and skills needed by students of all educational levels and required of academic faculty and librarians supporting these students. Many students in the nursing field are also currently practicing; therefore, the standards were designed for practical clinical application as well as continuing education for nurses (American Library Association, 2013). As Phelps (2013) explained:

> These standards will provide a common language for nursing faculty and librarians to discuss student information literacy skills at each stage of education and practice, enabling nursing faculty and librarians to wave the standards into the appropriate program and individual class learning goals and to assess the students' readiness for evidence-based practice. (p. 117)

A challenge when teaching information literacy sessions in graduate nursing programs is that most undergraduate nursing programs require few, if any research courses; therefore, students have rarely been taught what it means to be information literate in their field, and their information literacy skills are usually weak (Miller & Neyer, 2016; Nylander & Hjort, 2020; Ullah & Ameen, 2019; Waltz et al., 2020). Curricula can be scaffolded to incorporate appropriate levels of information literacy, but as Miller and Neyer (2016) pointed out, "Because of the complexity of information literacy, there is an increased need for interactive learning between students, faculty, and librarians that complements rather than complicates teaching and learning" (p. 25). It can be difficult to map curriculum outcomes to frameworks and standards such as *The Framework* or the *Information Literacy Competency Standards for Nursing*, which is why a collaboration between teaching faculty and academic librarians is beneficial as they often share an understanding of the requirements for information literacy competency (Miller & Neyer, 2016; Stevens et al., 2019; Waltz et al., 2020).

Nursing students, especially international nursing students, given the opportunity to spend time with a librarian and peers in interactive learning environments outside of the classroom are more likely to ask questions and build confidence (McGowan, 2019; Murray & Preston, 2016). Nursing students who only encounter the librarian during one-

shot sessions will often feel a sense of shame due to the inability to navigate the library on their own; consequences include lacking information literacy skills that could go unaddressed throughout their academic careers, resulting in poor grades or even withdrawal from the program (Ewing, 2019; Purnell et al., 2020). As Shao and Purpur (2016) asserted, “By all accounts, becoming information literate is important for individuals to succeed both academically and professionally”; therefore, the embedded librarianship model is suggested for nursing programs to bolster student success (p. 671).

Embedded Librarianship

During traditional information literacy instruction sessions, the librarian is often seen as an invited speaker who brings supplementary course materials; in a collaborative partnership, the teaching faculty and librarians work together from the same pedagogical foundation to establish course objectives, curricula, and assessments (Arp et al., 2006; Reale, 2016). Increasingly, institutions of all sizes are following the example of large research institutions by moving away from information specialists and toward the embedded librarianship model (Hess, 2018; Jaguszewski & Williams, 2013). The role of the embedded librarian as a co-instructor is steadily increasing (Alverson et al., 2019; Fagan et al., 2019; Hensley & Davis-Kahl, 2017). Working together, teaching faculty and academic librarians are able to design course syllabi, schedules, assignments, and assessment rubrics aligned with information literacy frameworks that will be sustainable for ongoing collaborations (Hensley & Davis-Kahl, 2017; Lowe et al., 2020).

Due to a lack of consistency in how information literacy has been taught, or even who has taught it, teaching faculty are disappointed with their students’ information literacy skills, especially research skills (Arp et al., 2006; Jaguszewski & Williams,

2013). Alverson et al. (2019) noted online faculty tend to find their students lacking in information literacy skills, specifically related to finding and evaluating scholarly information; therefore, they rely on librarians to help teach these skillsets. The University of Oklahoma developed a successful Presidential Dream Course with an embedded librarian wherein half of the class sessions were set aside for librarian-led, interactive workshops (Hensley & Davis-Kahl, 2017). Several studies have been conducted to examine if there is a correlation between faculty members or embedded librarians teaching information literacy and student success in terms of GPA or retention, and results have revealed greater correlation when librarians taught the information literacy components (Croxton & Moore, 2020; Lowe et al., 2020; Schwieder & Hinchliffe, 2018; Scoulas & Groote, 2019).

Collaboration between teaching faculty and embedded librarians is not restricted to the physical classroom (Burke & Tumbleson, 2016; Dexter et al., 2019). Online resources such as virtual research appointments and library guides are examples of ways digital informational literacy can be implemented into any learning management system (Alverson et al., 2019; Carey et al., 2020; Dexter et al., 2019). As Alverson et al. (2019) explained:

> Engaging in [embedded librarianship] not only determines if librarian interventions can successfully influence student outcomes, it also draws attention to the somewhat invisible work that librarians do in support of this growing demographic of online students. (pp. 33–34)

When the embedded instruction can properly align to student outcomes, or even institutional goals, stakeholder support is much more likely to be obtained (Alverson et al., 2019; Lowe et al., 2020).

Arp et al. (2006) outlined several methods for successful collaboration between teaching faculty and librarians. Integration into individual courses such as first-year seminars or research, business, and management courses leads to information literacy instruction and course assignments designed with specific skills needed to be successful (Arp et al., 2006). Learning communities gained popularity in the 1960s and are a natural fit for information literacy, as coordinated courses are linked in a coherent program and taught by a team of teachers to a set cohort of students (Arp et al., 2006; Bernstein et al., 2020; Rapchak et al., 2018). Universal, campus-wide information literacy programs offer a foundation to the undergraduate student body as a whole and have resulted in success at institutions such as California State University and Iowa State University (Arp et al., 2006). It is important to emphasize no matter which method is implemented, collaborative projects do not require an individual to relinquish his or her professional identity; instead, collaboration can result in substantial contributions to the institution and the goals of the institution due to the in-depth nature of projects and cross-sector involvement, increased isolation of the individual units involved, and expanded skillsets for staff (Lippincott, 2000).

Embedded Librarianship in Nursing Programs

Nursing and health science students have unique information literacy requirements and benefit from an embedded librarian with whom they are able to collaboratively build a scaffolded, achievable, and sustainable information literacy

curriculum (American Library Association, 2013; Arp et al., 2006; Jaguszewski & Williams, 2013; Massengale et al., 2016; Smith, 2019). Smith (2019) outlined:

> The deeply entrenched nature of evidence-based practice (EBP) or evidence-based medicine (EBM) in health education, which is necessarily intertwined with IL [information literacy], teaches students in health programmes, at least in part, that it is not enough to simply find, retrieve, and use health information, but they must also be able to engage with it by using it in their decision making and respond to it by reflecting on their own knowledge and expertise. (p. 144)

Many nursing and health science programs are transitioning to, or adding, online formats to accommodate the needs of an older working student population (Smith, 2019; Stevens et al., 2019; Wissinger et al., 2018). According to the National League of Nursing (2020), 61.7% of students enrolled in an undergraduate bachelor's degree completion program in nursing (RN-BSN) in 2018 were over 30 years old, and 43.6% of graduate students at the master's level were over 30 years old (Proportion of Student Enrollment by Age and Program Type [data set], 2018).

Barriers to the Embedded Librarianship Model

Librarians have been working hard during the 20th century not only to professionalize but also to discredit librarian stereotypes and increase respect for librarians, funding for libraries, and collaboration with other departments (Fagan et al., 2019). Almeida and Pollack (2017) explained, "The increased focus on embedment in academic libraries is related to the uptick in studies addressing librarian-faculty partnerships" (p. 128). While these collaborations are valuable and have resulted in increased student success, if poorly implemented or not supported by the administration

and faculty, the embedded librarianship model is difficult to sustain (Fagan et al., 2019; Fowler & Schmehl Hines, 2018; Raish, 2018).

Faculty Collaboration is Key

There is no question that classroom faculty play a vital role in students' acquisition of information literacy skills (Lowe et al., 2020). However, inconsistency exists in the research concerning who is responsible for delivering information literacy content – teaching faculty or librarians – and teaching faculty have been apathetic to the concept of collaboratively teaching with librarians (Almeida & Pollack, 2017; Stebbing et al., 2019). As Fagan et al. (2019) outlined, "The library's ability to fulfill its mission is affected by non-librarian faculty perceptions of librarians because they exert significant influence on most campuses" (pp. 14–15). Many librarians already have trouble with feeling their teaching efforts are appreciated or valued, and researchers have shown that faculty do not consider librarians as academic equals or think of them as individuals who formally teach (Fagan et al., 2019; Lowe et al., 2020).

Librarians not embedded in program-appropriate classrooms are at the mercy of instructors to invite them to be a part of the learning process and to share resources and knowledge with students (Biando Edwards, 2018; Ewing, 2019; Smith, 2019). According to Winner (1998 as cited in Arp et al., 2006):

> Teaching faculties are appreciative of the support given by librarians; however, librarians are not universally recognized as playing an integral role in course planning and teaching… simply working with faculty is not enough; collaboration is only successful when the interaction between librarians and faculty results in an integration of the library into all elements of the curriculum planning. (p. 19)

One of the top priorities of embedded librarians, or any librarians, is to develop relationships and open the lines of communication with faculty members to mitigate existing laissez-faire attitudes about the department and the sometimes-underlying prejudice against the chosen field of study (Fagan et al., 2019; Jaguszewski & Williams, 2013; Reale, 2016).

Implementing Information Literacy Competencies

Information literacy, when defined by teaching faculty, is centered around the first two levels of Bloom's Taxonomy: knowledge and comprehension (Stebbing et al., 2019). The expectation of teaching faculty is for students to develop information literacy skills during their courses; faculty often take the students' ability to conduct research for granted, yet faculty do not make information literacy skills measurable learning objectives when planning their courses (Stebbing et al., 2019). By mapping course outcomes to information literacy competency standards, students develop skills on the higher levels of Bloom's Taxonomy such as application, analysis, synthesis, and evaluation (Miller & Neyer, 2016; Stebbing et al., 2019). One of the central missions of higher education institutions is to develop lifelong learners, and librarians contribute to this mission by educating faculty and students in how to navigate the use of information based on guidelines and standards established by the ACRL (Phelps et al., 2015). When student learning outcomes and information literacy competencies are outlined on a concept map, it is not only easier to visualize the progression of assignments for the teaching faculty and librarian within the curriculum, but each student's information literacy skill development can be documented (Miller & Neyer, 2016).

It is important when aligning information literacy competencies to ensure the individuals assigned to the project are not only experts in their field, but are up to the task (Raish, 2018). Unfortunately, with decreasing budgets, increasing job responsibilities, and inconsistent Master of Library and Information Science degree requirements, librarians with teaching requirements as part of their contracts often feel ill prepared but obligated to enter the classroom, with other responsibilities being left undone and burnout on the horizon (Fowler & Schmehl Hines, 2018). As Fowler and Schmehl Hines (2018) outlined:

> It is necessary to manage the job creep of instruction duties in one's library not only to support good workplace morale and health, but because reduced health and job satisfaction can result in decreased productivity, increased absenteeism, and increased turnover. (p. 150)

According to Miller and Neyer (2016), "A collaborative approach combined with good timing seems like a simple idea, but improving assignment logistics requires innovative planning and a good roadmap of the curriculum" (p. 25). No matter what, for any type of embedded librarianship model to be successful, good communication and the ability to build relationships are required (Almeida & Pollack, 2017; Fagan et al., 2019; Raish, 2018).

Summary

Chapter Two included a restatement of the problem of this study. The review of literature included discussion of the value of academic libraries, including two possible definitions for value when referencing academic libraries proposed by the ACRL in their *Value of Academic Libraries* report: how the library demonstrates financial value, or

return on investment, and how the library demonstrates impact value, or library value. Information literacy instruction was discussed in relationship to graduate nursing programs including how information literacy instruction is the responsibility of both teaching faculty and librarians, and how librarians can help faculty facilitate information literacy modules for the classroom. The chapter concluded with an overview of literature pertaining to the embedded librarianship model, and some of the barriers encountered to date such as faculty collaboration and implementing information literacy competencies aligned within a scaffolded curriculum.

Chapter Three includes a description of the methodology of the study, the problem statement driving the study, and the research questions identified in the study. Next, the research design, population and sample, instrumentation, and data collection methods are identified. Finally, data analysis and the ethical considerations of the study are outlined.

Chapter Three: Methodology

A pathway for librarians, faculty, and other institutional stakeholders to become collaborative partners in the creation or re-creation of instructional sessions, assignments, courses, and curricula is created in *The Framework* (American Library Association, 2015). In Chapter Three, the methodology of the study is reviewed, in addition to the problem statement and the research questions driving the study. The research design, population and sample, instrumentation, and data collection methods follow. The chapter concludes with a description of the data analysis and an outline of the ethical considerations of the study.

Problem and Purpose Overview

Teaching faculty in graduate programs are dissatisfied with the quality of research conducted by students (Miller & Neyer, 2016; Wissinger et al., 2018). This dissatisfaction is especially prevalent in graduate health science and nursing programs where mastering the ability to conduct research is a learning goal of the program (Miller & Neyer, 2016; Wissinger et al., 2018). According to Benjes-Small and Miller (2017), students are being admitted with a lack of information literacy competencies, or the ability to effectively access and use required resources within their fields. The intention of forming the ACRL *Information Literacy Competency Standards for Nursing* was to "address overestimates of perceived… [information literacy] competencies so that students and nurses have a better understanding of where they have strengths and where they need additional skills" (Phelps et al., 2015, p. 279). The establishment of these standards led Phelps et al. (2015), among other advocates of collaboration, to recommend:

> Adopting the standards within academic nursing programs at the earliest level possible and through a variety of stakeholders is the most effective strategy for ensuring that nurses are given the tools they need to utilize evidence in their professional practices. (p. 278)

The development of these standards and the desire for increased student success has led to the resurgence in popularity of a collaborative instructional model where teaching faculty and librarians are partners in the classroom, communicating and collaborating on curriculum, pedagogical norms, and assessment (Arp et al., 2006; Jaguszewski & Williams, 2013; Miller & Neyer, 2016).

The focus on embedded librarianship was chosen for this study for several reasons. One-shot information literacy sessions are the traditional method through which students learn about the research process and resources available to them in academic libraries; however, based on instructor feedback, this is ineffective overall (Miller & Neyer, 2016; Wissinger et al., 2018). Graduate students, especially those in research-heavy courses such as nursing, struggle to absorb all the information disseminated by the librarian in a single session during the first week of a course and often fail to retain or apply that knowledge for the next eight to 16 weeks (Ullah & Ameen, 2019). Therefore, it would be beneficial to know if students enrolled in a course taught collaboratively by a faculty member and an embedded librarian demonstrate a higher level of information literacy competency at the end of the course than students enrolled in a course wherein information literacy instruction is limited to one-shot sessions.

Research Questions and Hypotheses

The following research questions and hypotheses guided the study:

1. What are the perceptions of students regarding library services at one private, four-year liberal arts university in Missouri?

2. At what levels do the students of a private, four-year liberal arts university in Missouri report their library usage?

3. What difference, if any, exists between students' ability to critically evaluate information in a graduate nursing course where there is an embedded librarian versus similar students' ability to critically evaluate information in a graduate nursing course where there is not an embedded librarian?

$H3_0$: There is no difference in the mean of students' ability to critically evaluate information in a graduate nursing course with an embedded librarian.

$H3_a$: There is a difference in the mean of students' ability to critically evaluate information in a graduate nursing course with an embedded librarian.

4. What difference, if any, exists between the final assignment grade in a graduate nursing course where there is an embedded librarian versus a similar final assignment grade in a graduate nursing course where there is not an embedded librarian?

$H4_0$: There is no significant difference in the mean scores of the final assignment based upon an embedded librarian in a graduate nursing course.

$H4_a$: There is a significant difference in the mean scores of the final assignment based upon an embedded librarian in a graduate nursing course.

Research Design

This causal-comparative study was based on a quantitative research design. The quantitative design was appropriate for this study, as it involves "testing objective

theories by examining the relationship among variables" (Creswell & Creswell, 2018, p. 4). In causal-comparative research, the causes or consequences of differences between or among groups of individuals are determined (Fraenkel et al., 2019, Mertens, 2019). According to Fraenkel et al. (2019) and Mertens (2019), a basic causal-comparative approach begins with a noted difference between two groups, and causes for or consequences of this difference are studied.

The portion of this study involving causal-comparative analysis included comparing the means of two groups of students during two different times. The two groups were comprised of students enrolled during Spring 2019 who did not have an embedded librarian and those enrolled during Spring 2020 who did have an embedded librarian. The criteria of eligibility were based on enrollment and the completion of all assignments in the course. The mean scores of Spring 2019 nursing research and Spring 2020 nursing research assignments were reviewed via a *t*-test to determine if an embedded librarian caused a difference in course performance.

A descriptive survey involves asking the same set of questions of a large number of individuals, tabulating, and then reporting the answers (Fraenkel et al., 2019). On a bi-annual basis, each university librarian, along with the Dean of the University Libraries, reviews faculty, staff, and student surveys for accuracy and relevancy, and then the surveys are submitted to the university Research Review Board (E. Walton, personal communication, February 25, 2020). Once approved, the university library surveys are disseminated to all students, staff, and faculty at the university to analyze how individuals use library resources, as well as how they feel about services offered by the library. The data from this survey are used to evaluate budgets, staff needs, programs, and resources.

For this study, deidentified data from the survey disseminated to the Spring 2020 student population at a private, four-year liberal arts university in Missouri via QuestionPro through the Center for Institutional Effectiveness were used.

Population and Sample

The population of the descriptive survey included 3,500 undergraduate and graduate students enrolled in a private, four-year liberal arts university in Missouri during the Spring 2020 semester. A purposive sample of students over the age of 18 met the eligibility criteria for completing the survey established by the university and disseminated by the university libraries. Participants in a purposive sample are selected because they meet specific criteria or possess particular qualities (Burkholder et al., 2019; Creswell & Creswell, 2018; Ilker et al, 2016). The answers submitted by survey eligible students were evaluated to assess how students feel about library services, as well as how they reported their level of library usage.

The population for the causal-comparative research included students enrolled in the Spring 2019 nursing research course and the Spring 2020 nursing research course. A purposive sample was utilized to select students enrolled in these courses, all of whom were over the age of 18; therefore, they were considered to meet the eligibility criteria if they submitted all their course assignments. Two of the assignments submitted, the matrix assignment that assessed each student's ability to critically evaluate information and the final assignment, were evaluated based upon mean scale scores using a paired sample *t*-test.

Secondary Data

Secondary data were collected at a private, four-year liberal arts university in Missouri. The descriptive survey data were collected as a part of the bi-yearly administrative program review process for the university libraries. The causal-comparative research was focused on the independent variable of the embedded librarian in relation to the dependent variable of student outcomes as measured by mean scores of the matrix assignment and the final assignment in the Spring 2019 nursing research course and the Spring 2020 nursing research course.

Instrumentation

Research questions one and two of this study were answered based upon secondary data collected from an existing Research Review Board-approved descriptive survey created at a private, four-year liberal arts university in Missouri (see Appendix A). The survey was created by the University Library Information Literacy Librarian under the direction of the University Library Dean. The survey instrument was originally created in 2003 and is reviewed bi-annually by the University Libraries' Dean and faculty librarians to evaluate and update questions for accuracy and timeliness as needed (E. Walton, personal communication, February 25, 2020). The reliability and validity of the survey has been systematically proven by the institution's established process of bi-annual review, but has not been tested based upon past scores (E. Walton, personal communication, October 12, 2020).

The survey consists of five sections and staff, faculty, and students are asked to evaluate library instruction, resources, e-books, and facilities. The survey was designed to collect quantitative data. Ordinal data are data that can be put into categories and then put

into a rank or systematic order without a precise difference between ranks (Bergin, 2018; Bluman, 2018).

Sections 1–3 of the survey elicit ordinal data to measure the participants' responses to library instruction, library resources, and e-book usage. Sections 4 and 5 are qualitative and allow participants to provide candid feedback. The data collected from the survey were used to evaluate budgets, staff needs, programs, and resources.

Permission to evaluate sections 1, 2, 4, and 5 of the survey was obtained from the University Libraries' Dean, and permission to be embedded in the Spring 2020 nursing research course was obtained from the Dean of the College of Health Professions. These permissions, in addition to permission from the private, four-year liberal arts university in Missouri, were obtained prior to seeking approval by the Lindenwood University Institutional Review Board (see Appendix B). Deidentified student data from Sections 1, 2, 4, and 5 of the surveys were collected and analyzed regarding how students used library resources, as well as how they felt about the services offered by the library.

Research questions three and four were answered following analysis of data elicited from two groups comprised of students enrolled in either the Spring 2019 nursing research course or the Spring 2020 nursing research course at the same private, four-year liberal arts university in Missouri. Both courses were taught online, and assignments were graded by the same primary instructor. Schoepp et al. (2018) found in their literature review of both discipline and regional accreditation agencies that rubrics are actively promoted as a credible assessment of student learning. The Spring 2020 nursing research matrix assignment (MA) (see Appendix C) and the spring 2020 nursing research final assignment (FA) (see Appendix D) were assessed using curriculum-aligned rubrics (see

Appendices E & F). The content expert and embedded librarian worked closely on the Spring 2020 nursing research course to align the assignments and rubrics to the *Information Literacy Competency Standards for Nursing* between Spring 2019 and Spring 2020. A causal-comparative analysis was conducted to determine if the groups differed based on mean score growth from the matrix assignment (MA) to the final assignment (FA). The independent variable was enrollment in the course with the embedded librarian.

Data Collection

Data collection began upon approval of the Lindenwood University Institutional Review Board and the participating institution. Once permission was granted, secondary data from the participating institution were examined. The first set of data came from the University Library Survey disseminated by the Center for Institutional Effectiveness at the institution studied.

The survey was sent via email to students and was available on social media during the Spring 2020 semester at an assessment-appropriate time via the institution's survey platform, QuestionPro, to assure participant autonomy and to preserve the data rectitude. The survey timeline was initially scheduled to be available for four weeks, spanning spring break. However, with the outbreak of the COVID-19 virus and the restructuring of all coursework to online delivery, the survey timeline was extended and was available for six weeks.

The second set of secondary data came from the Master of Science of Nursing program. The Master of Science of Nursing program chair assigned students arbitrary codes ranging from A-Z known only to her and then subsequently aligned the de-

identified assignment scores from the two different time periods to the correct students. The course grades were collected for this course as part of the regular teaching process. The course was taught online via the learning management software platform Blackboard; therefore, the outbreak of the COVID-19 virus and the restructuring of all higher education coursework to online platforms did not change the delivery method of the coursework or the assignment requirements.

Data Analysis

With the purpose of answering the four research questions, two types of statistical tests were conducted on the data sets. The university library survey data were collected using the survey software QuestionPro, which allowed for participant autonomy, data rectitude, and the ability to conduct statistical analysis. The results of the survey were exported into Excel and evaluated for frequency of answers, with a focus on how students felt about library services and how students reported their library usage.

The second data set was evaluated using the data analysis add-in in Microsoft Excel to calculate the measures of central tendency including the mean, median, mode, and midrange. The analysis of this data set involved using a *t*-test to compare the means of two groups of students during two different times. The two groups were comprised of students who were enrolled during Spring 2019 and did not have an embedded librarian and those enrolled during the Spring 2020 course who did have an embedded librarian.

Ethical Considerations

Data used for this study were kept on a secured, password-protected, institutional server or in a locked physical cabinet. No identifiable information collected regarding student names, student identification numbers, courses, instructors, enrolled courses, or

the institution's name appeared in the study, so there was minimal risk for privacy violation or sensitive information being released. All data collected for the study will be retained on a password-protected university server for three years and then securely deleted.

Summary

The objective for the causal-comparative portion of this study was to determine if students who are part of a course with a faculty-librarian collaboration demonstrate appropriate information literacy competency skills. A key factor in causal-comparative research is to research two groups with a noted difference and to evaluate the causes for, or consequences of, this difference (Fraenkel et al., 2019). The objective for the descriptive survey portion of this study was to analyze how individuals used academic library resources, as well as how they felt about the services offered by the library. A key factor in using a descriptive survey in research involves asking the same set of questions of a large number of individuals, tabulating, and then reporting the answers (Fraenkel et al., 2019).

Chapter Three included a review of the methodology of the study, the problem statement driving the study, and the research questions identified in the study. Next, the research design, population and sample, instrumentation, and data collection methods were identified. Finally, data analysis methods and the ethical considerations of the study were outlined.

Chapter Four includes a review of the purpose and the problem that drove this study. Next, the secondary data results from the library survey and the Master of Science

of Nursing program are analyzed. Finally, the findings from the research questions are presented and explained.

Chapter Four: Analysis of Data

Higher education instructors want to know not only how to increase the quality of student research but also if conducting relevant research intrinsically equates to being information literate (Arp et al., 2006; Jaguszewski & Williams, 2013). Students enrolled in graduate health science and nursing programs have demonstrated especially limited information literacy competencies due to inconsistent research requirements in ability-rich undergraduate curricula (Benjes-Small & Miller, 2017; Ullah & Ameen, 2019).

According to authors Jo and Ha (2019), by aligning curricula with the ACRL *Information Literacy Competency Standards for Nursing*, nursing instructors are able to "enhance the qualitative level of nursing in clinical practice and evidence-based practice" (p. 26). With the desire to increase student success at both the course and program level, combined with researchers espousing collaborative instruction where teaching faculty and librarians are partners in the classroom, the embedded librarianship model has seen an increase in nursing programs (Alverson et al., 2019; Miller & Neyer, 2016; Smith, 2019). As Miller and Neyer (2016) explained, "Information literacy cannot be developed in a single class or semester; the librarian's role is crucial for helping students segue into higher level skills" (p. 32).

Data Collection

Secondary data from a private, four-year liberal arts university in Missouri were analyzed for this study. On a bi-annual basis, the university libraries conduct a survey to collect data as part of the administrative program review process, and these descriptive survey data were used for this study. The survey was sent to all undergraduate and graduate students enrolled in the Spring 2020 semester. Students were eligible to

participate if they self-identified as being over the age of 18. The data were collected via QuestionPro, a third-party survey tool that allows for online anonymous data compilation. Data were then assembled and protected by the institution's Center for Institutional Effectiveness; all identifying information was removed before data were released.

Each spring semester, a course in research is offered by the Master of Science of Nursing program, and the analysis of this data set involved comparing the means of two cohorts of students during two separate semesters. A causal-comparative analysis was conducted to determine if the Spring 2019 and Spring 2020 nursing research courses differed based on mean score growth of the matrix assignment (MA) and the final assignment (FA) with the independent variable being enrollment in the course with an embedded librarian. All students enrolled in the courses were over the age of 18, so if they turned in all assignments, they met eligibility requirements for the study. Following Lindenwood Institutional Review Board and the institution's Research Review Board approval, data were deidentified, analyzed, and protected.

Organization of Chapter Four

Chapter Four contains a summary of the characteristics of all 3,500 eligible students to provide a description of the survey population. Following, an outline of the demographic information is presented for the 132 eligible students who participated in the survey. Research questions one and two were evaluated for frequency of answers, with a focus on how students felt about library services and how students reported their library usage. Research questions three and four were answered by comparing the mean scores of two course grades of students enrolled during Spring 2019 who did not have an

embedded librarian and those enrolled during the Spring 2020 course who did have an embedded librarian.

Description of Survey-Eligible Students

During the Spring 2020 semester, 3,078 undergraduate and graduate students were sent the library survey via their campus email addresses, were notified of the survey on social media, or received information about the survey on the university portal. Students were qualified to participate if they were currently enrolled in classes; 133 elected to participate, and 132 students met the eligibility requirement of being over the age of 18 (see Table 1).

Table 1

Summary of All Eligible Students Who Qualified to Participate

Students	All Students	Qualified	Eligible
Undergraduate	2,355	122	121
Graduate	723	11	11
Totals	3,078	133	132

Eligible students who participated in the survey represented 4% of the student population and were mostly comprised of female undergraduate students from Campus A (see Table 2).

Table 2

Summary of All Eligible Students Based on Enrollment Status

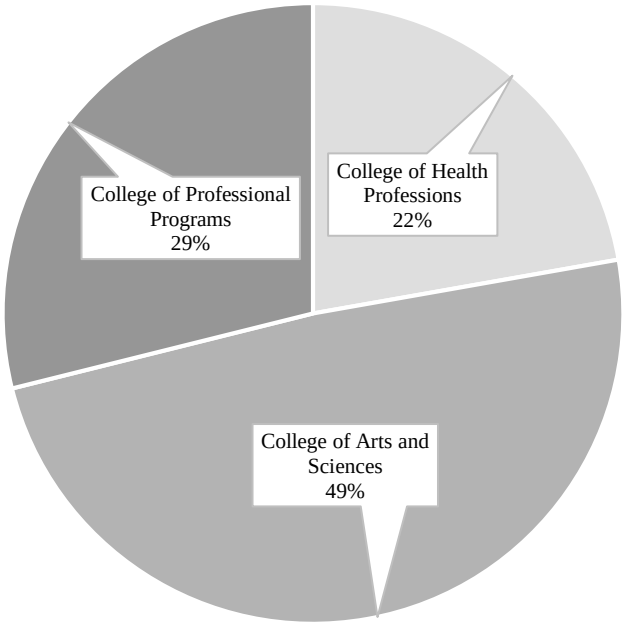
Student Class Levels	All Students	Eligible Participants
Female	1,494	106
Male	861	26
Students – Location		
Campus A	1,215	107
Campus B	63	2
Campus C	121	4
Campus D	509	19
Totals	2,355	132

Demographic Information of Survey-Eligible Students

Students who participated in the library survey self-reported selected demographic information. The library uses this information to assess which collaborations have been successful and in which programs work should be undertaken to foster relationships. Of the 132 students who participated in the library survey, 49% were part of the College of Arts and Sciences (see Figure 1).

Figure 1

Division of Library Collaborations

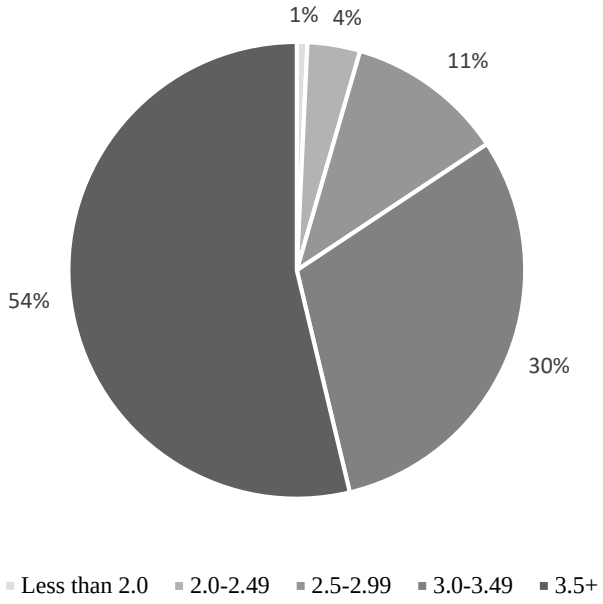


Note. *n*=132.

Of the 132 eligible students who took the library survey, 84% of students reported having a GPA of at least 3.0 or higher (see Figure 2).

Figure 2

Student-Reported Grade Point Average



Note. *n*=132.

Research Question One

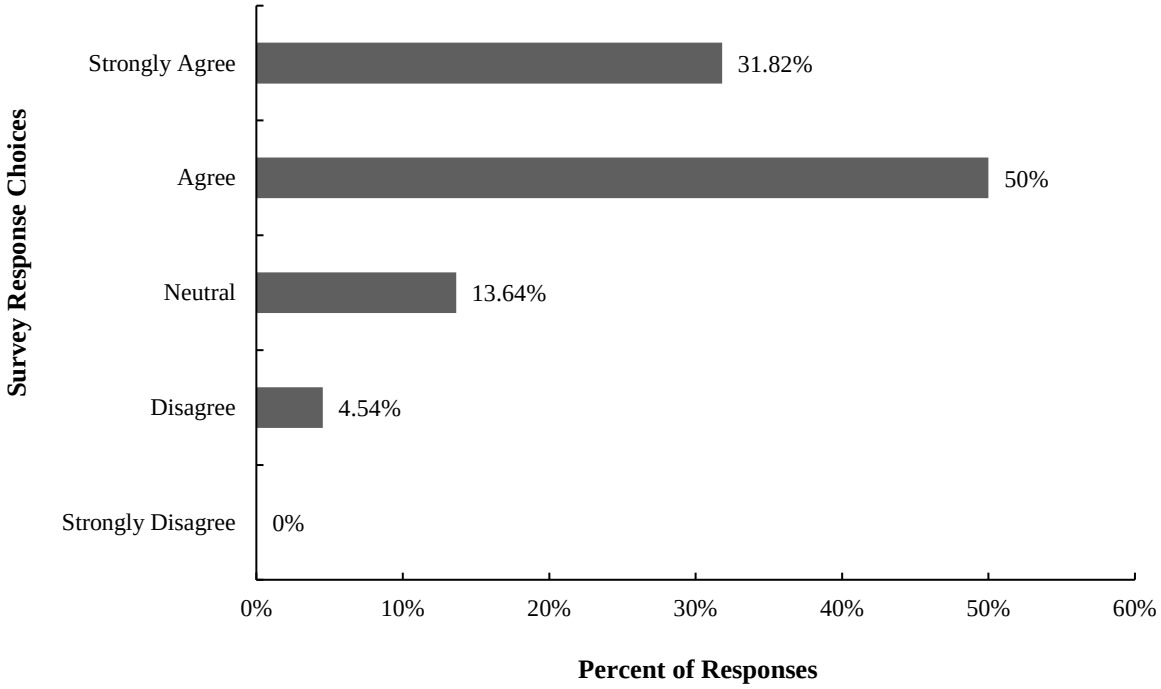
What are the perceptions of students regarding library services at one private, four-year liberal arts university in Missouri?

It is difficult to assess a student's self-efficacy, or their overall beliefs, feelings, and perceptions of their abilities, empowerment, and confidence to implement or use a certain skillset (Purnell et al., 2020). As students become more confident, they are more likely to seek help when they need information (Purnell et al., 2020; Russell et al., 2018). The first research question was analyzed by evaluating responses to the library survey statements to answer frequency to assess how students reported their perceptions of

services offered by the university library. Of the 132 eligible students, 70 students reported a librarian attended a class and taught the students how to find and/or use library resources and services. Of the 70 students, 66 students responded. Of those who responded, 81.82% strongly agreed or agreed they learned new and useful ways to find information and/or utilize library services during the librarian-led session (see Figure 3).

Figure 3

I Learned New and Useful Ways to Find Information (Book, e-Book, e-Journal) and/or Library Services in the Classroom Instruction Session

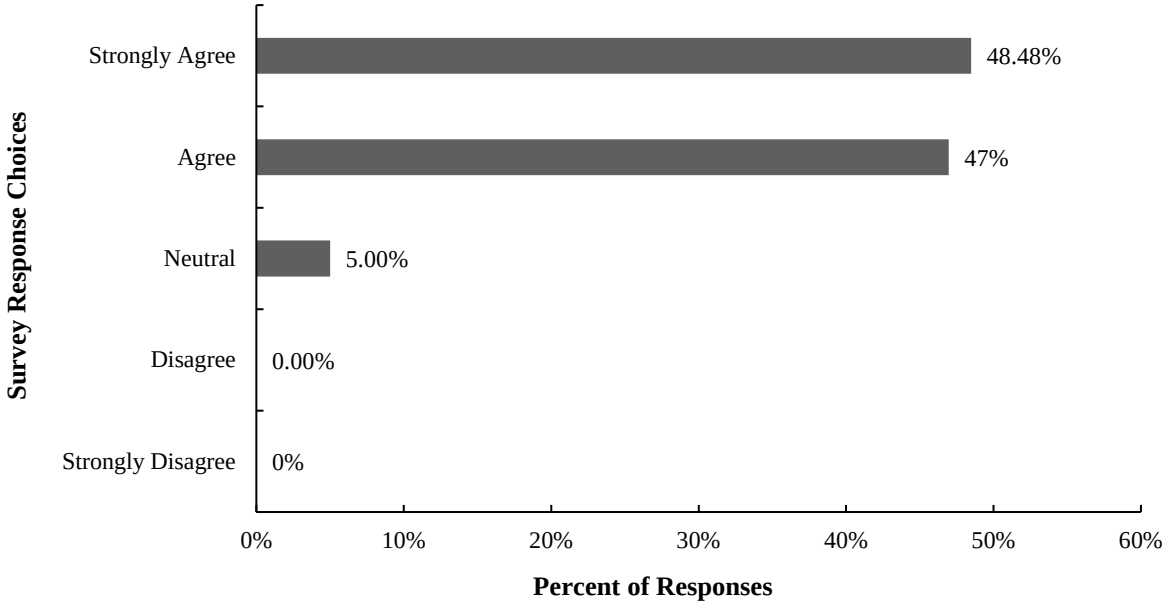


Note. *n*=66.

Of the same 70 students, 95.45% reported the librarians who came to their class were knowledgeable and able to answer questions (see Figure 4).

Figure 4

The Librarian Was Knowledgeable and Able to Easily Answer My Questions

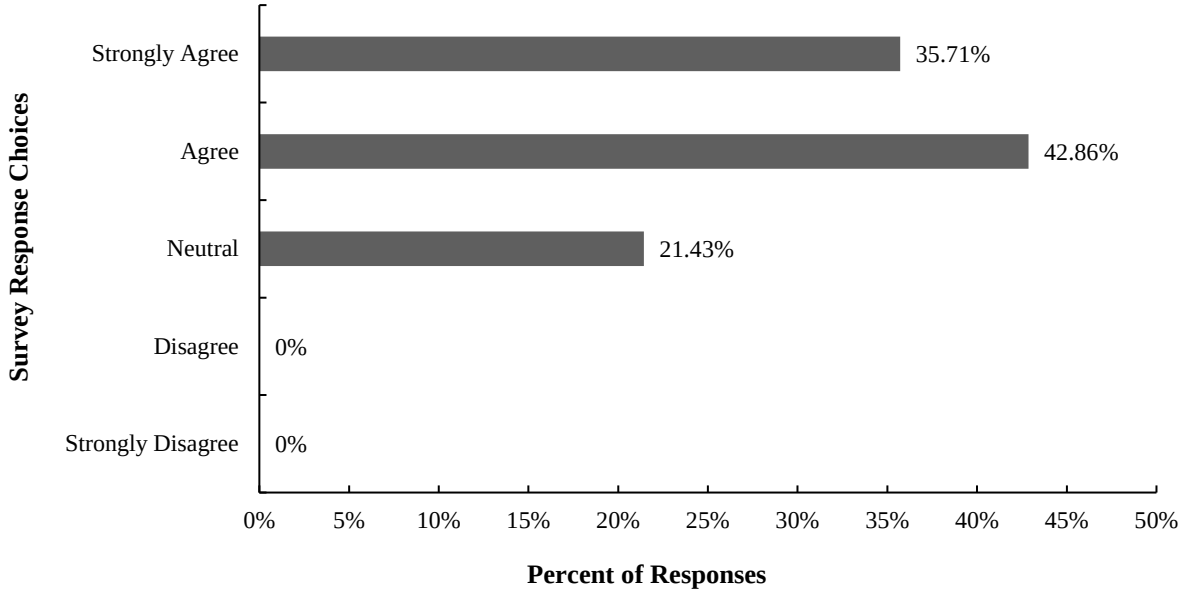


Note. *n*=70.

Of the 132 eligible students, 28 students utilized a library-created online tutorial on the library website to learn how to find information. Of those 28 students, 79% reported the tutorials were easy to locate (see Figure 5).

Figure 5

The Library Tutorials Were Easy to Find

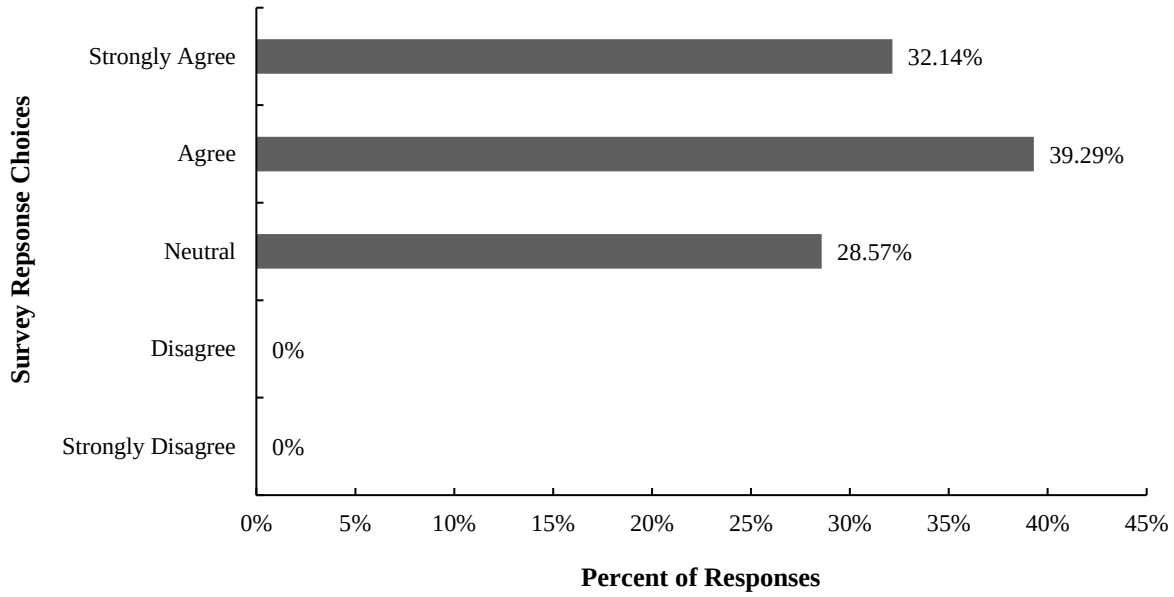


Note. *n*=28.

The same 28 students reported their perceptions of library tutorials as a way to learn new and useful ways for finding information and/or library services. A total of 71.43% of the students reported they agreed or strongly agreed with library tutorials being useful ways to find information (see Figure 6).

Figure 6

I Learned New and Useful Ways to Find Information (Book, e-Book, e-Journal) and/or Library Services from the Library Tutorial Videos

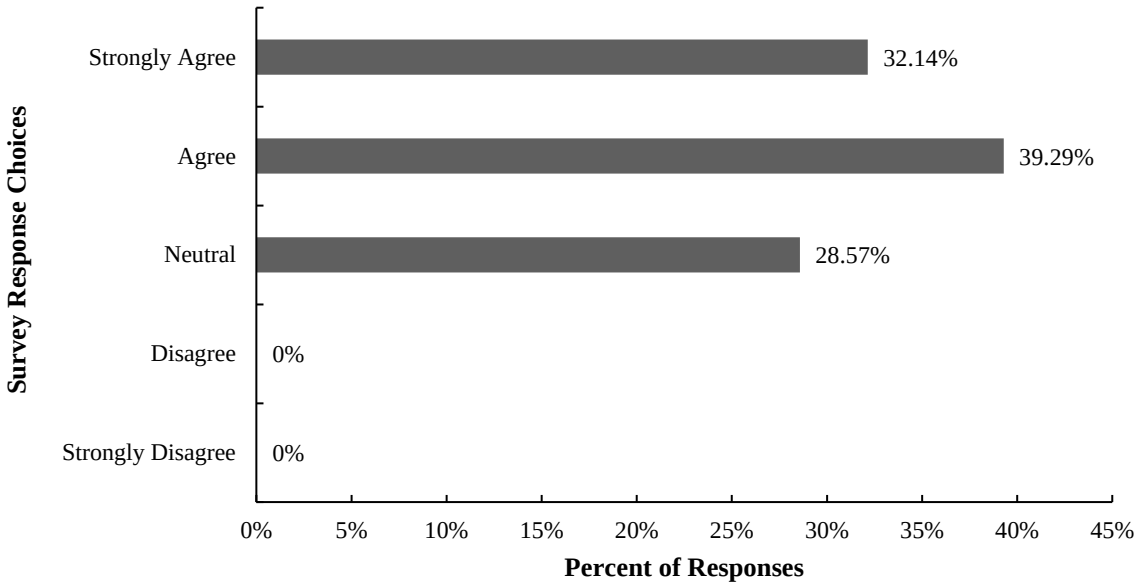


Note. *n*=28.

Overall, 82.15% of the 28 responding students reported library tutorials provide a clear methodology for finding information or learning about library services (see Figure 7).

Figure 7

The Library Tutorial Videos Provided a Clear Methodology to Find Information or Learn About a Library Service

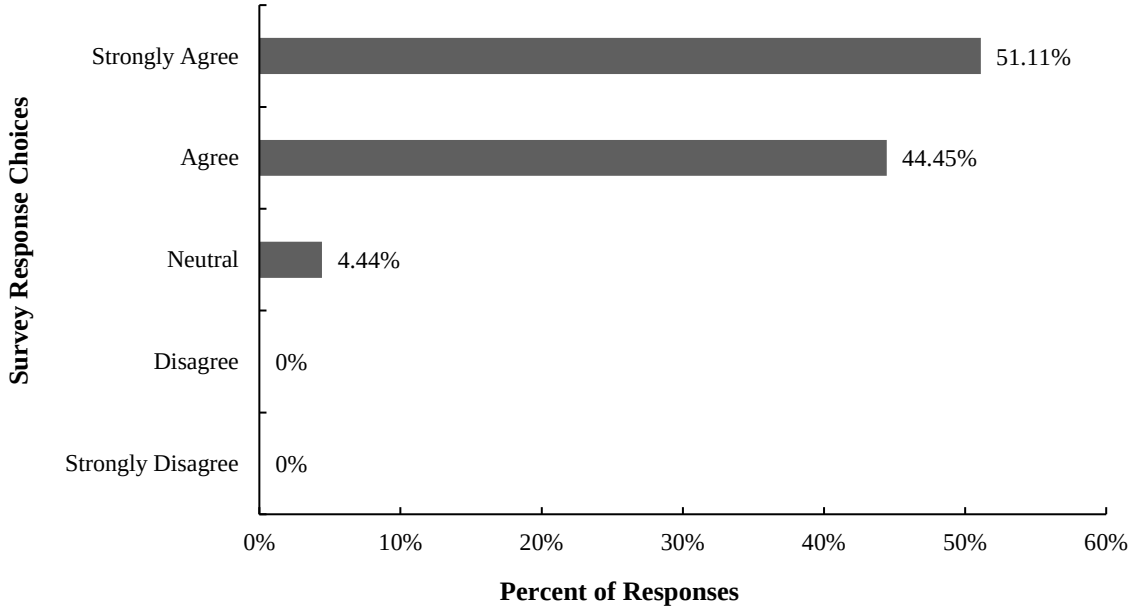


Note. *n*=28.

One hundred thirty-two eligible students completed the library survey, and 49 reported having met the personal librarian assigned to their college. A total of 45 students responded to follow-up questions. When asked if the personal librarian was available when the student needed help, 95.55% of participating students reported they agreed or strongly agreed they had access to librarians when needed (see Figure 8).

Figure 8

My Personal Librarian Was Available to Help When I Needed Help

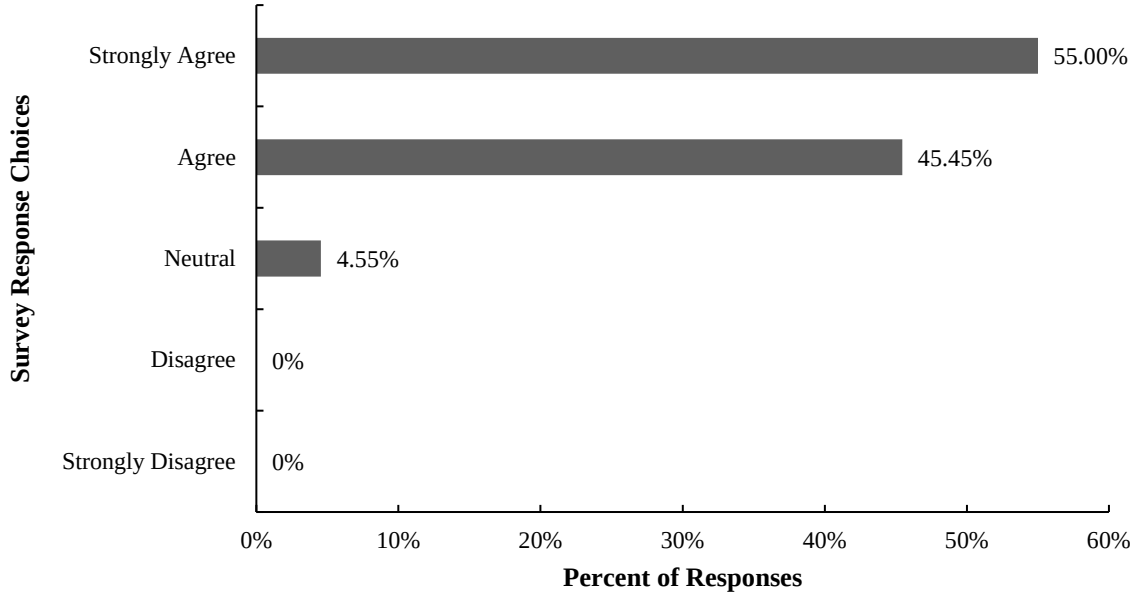


Note. *n*=45.

When asked if they feel their personal librarian is able to help them find information, 95.45% of the 44 responding students reported they agreed or strongly agreed (see Figure 9).

Figure 9

My Personal Librarian Was Able to Help Me Find Information

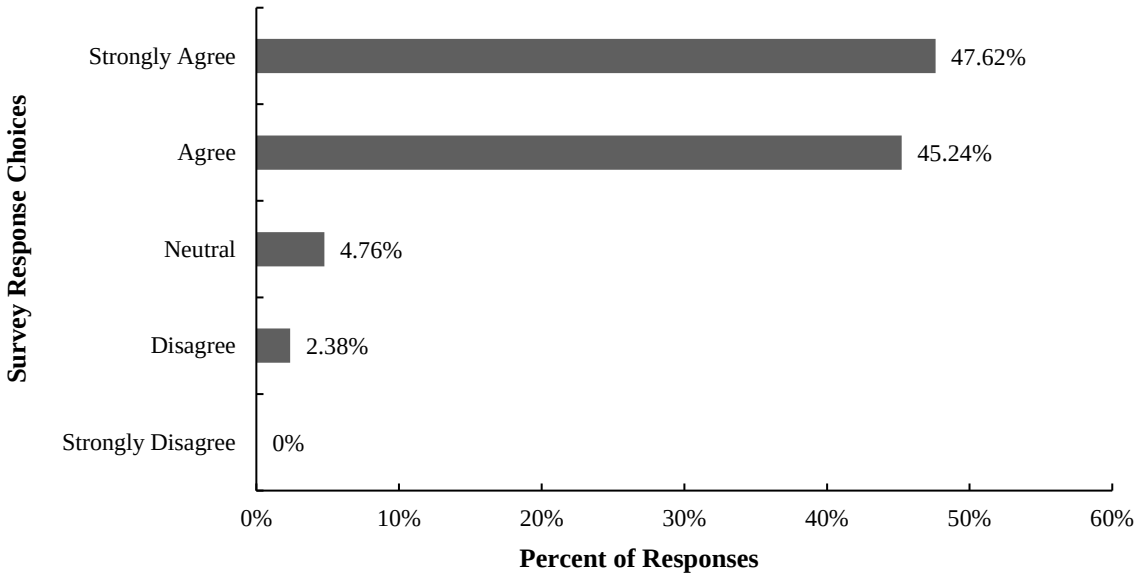


Note. n=44.

Only 42 eligible students responded when asked if their personal librarian is able to teach them about a resource or service helpful for finding information, with 92.86% either agreeing or strongly agreeing (see Figure 10).

Figure 10

My Personal Librarian Was Able to Teach Me About a Resource or Service That Was Helpful to Find Information

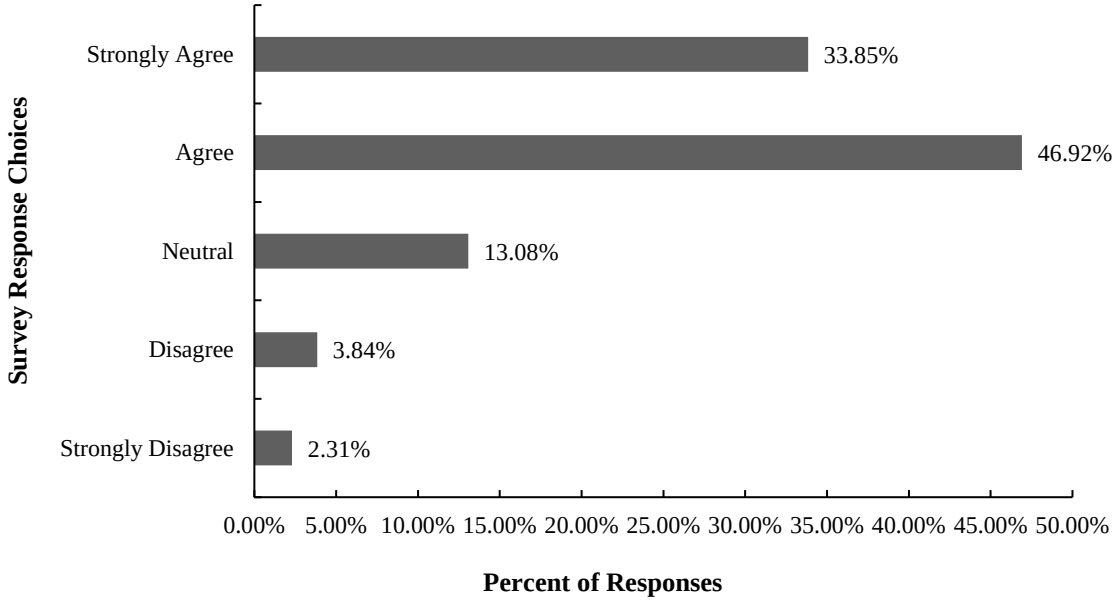


Note. *n*=42.

One hundred thirty of the 132 eligible students reported using the library or library services at some point during the previous 12 months. Of these 130 students, 19.39% expressed they were neutral, disagreed, or strongly disagreed about being able to find library resources on campus without help (see Figure 11).

Figure 11

I Am Generally Able to Locate Resources at My Campus Library Without Help

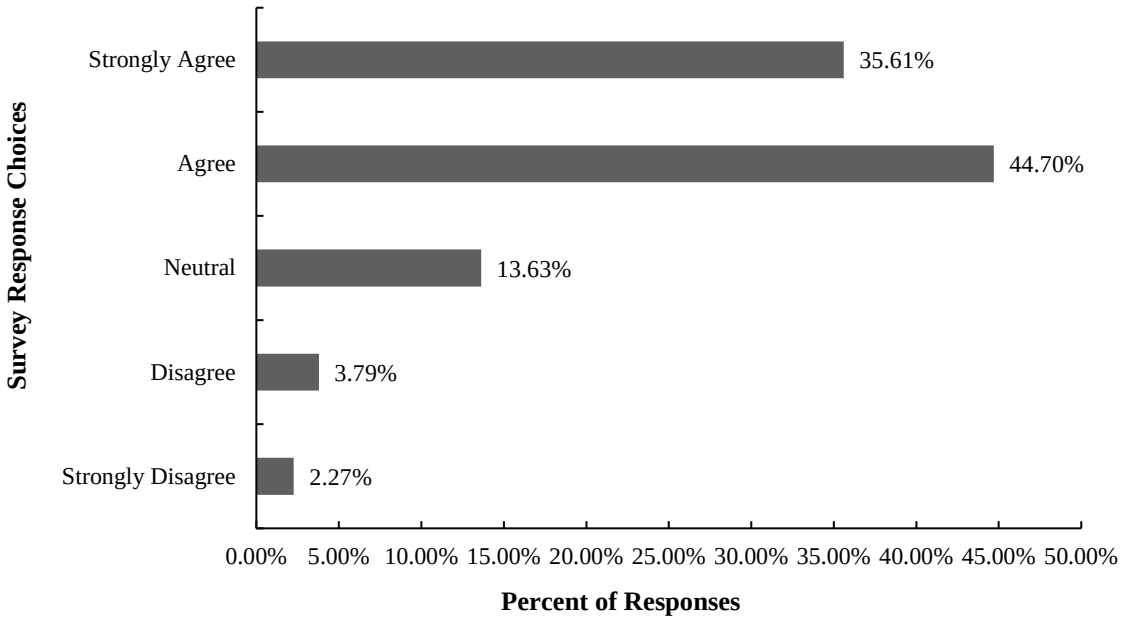


Note. n=130.

Of the 130 who responded, 80.77% of students expressed they agreed or strongly agreed the library provides enough resources to support their classroom learning needs (see Figure 12).

Figure 12

The Resources the University Libraries Provides Are Sufficient to Meet My Classroom Needs

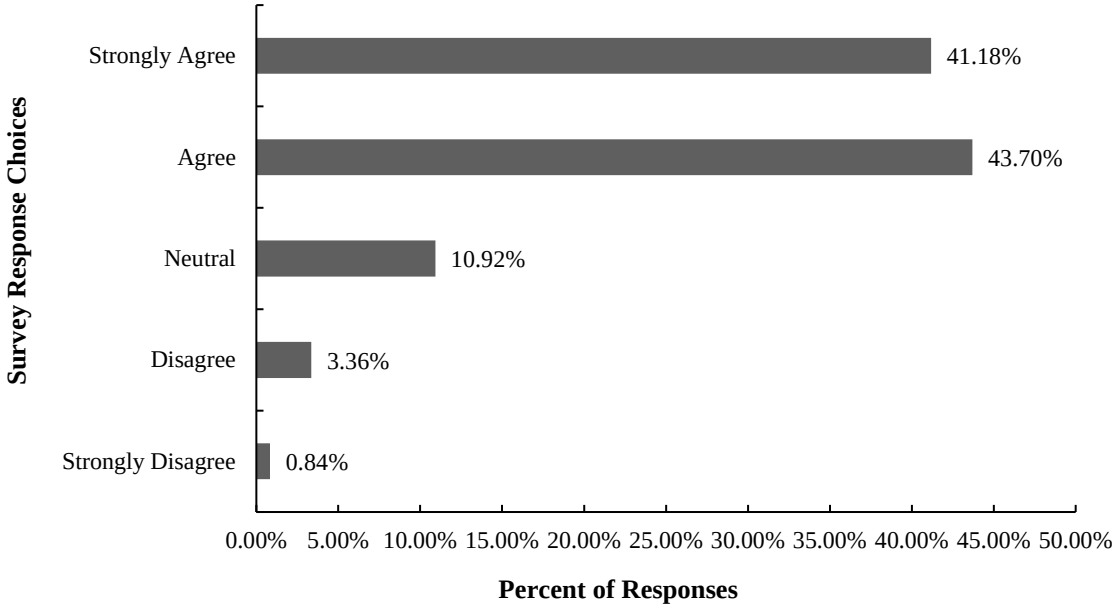


Note. *n*=130.

A total of 119 of the 130 students reported seeking help from library staff when looking for resources, with 84.88% agreeing or strongly agreeing they were able to find that help from the library staff (see Figure 13).

Figure 13

When I Need Assistance, I Am Able to Get Help Finding Resources from the Library Staff

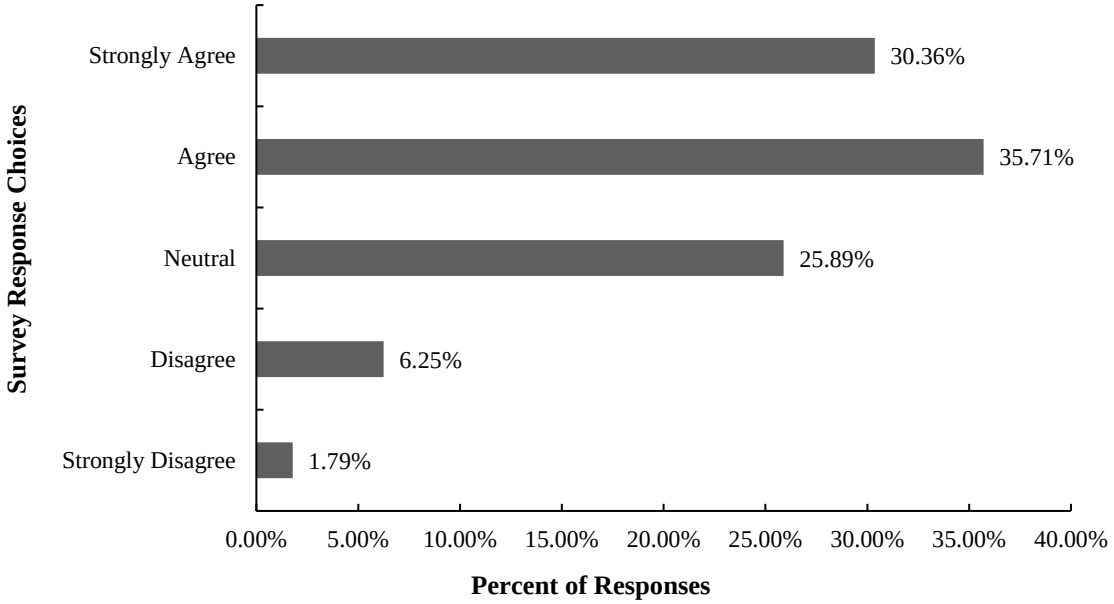


Note. *n*=119.

Not all students require access to the university archives; however, 66.07% of the 112 students reported they agreed or strongly agreed they felt they could access information from the university libraries' archives if they needed it (see Figure 14).

Figure 14

I Am Able to Access the Information Needed from the University Libraries' Archives

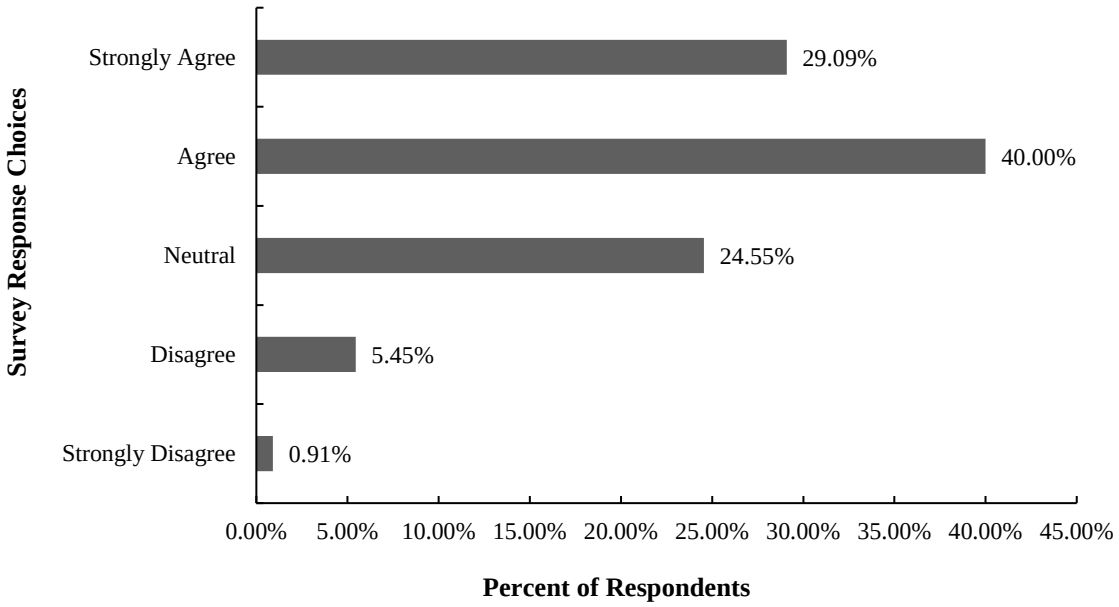


Note. n=112.

Overall, 69.09% of the 110 students who reported utilizing library research guides agreed or strongly agreed the library research guides were helpful in finding information for either their courses or the students' research needs (see Figure 15).

Figure 15

The University Libraries' Research Guides Are Helpful in Finding Information for My Course or Research Needs



Note. *n*=110.

Research Question Two

At what levels do the students of a private, four-year liberal arts university in Missouri report their library usage?

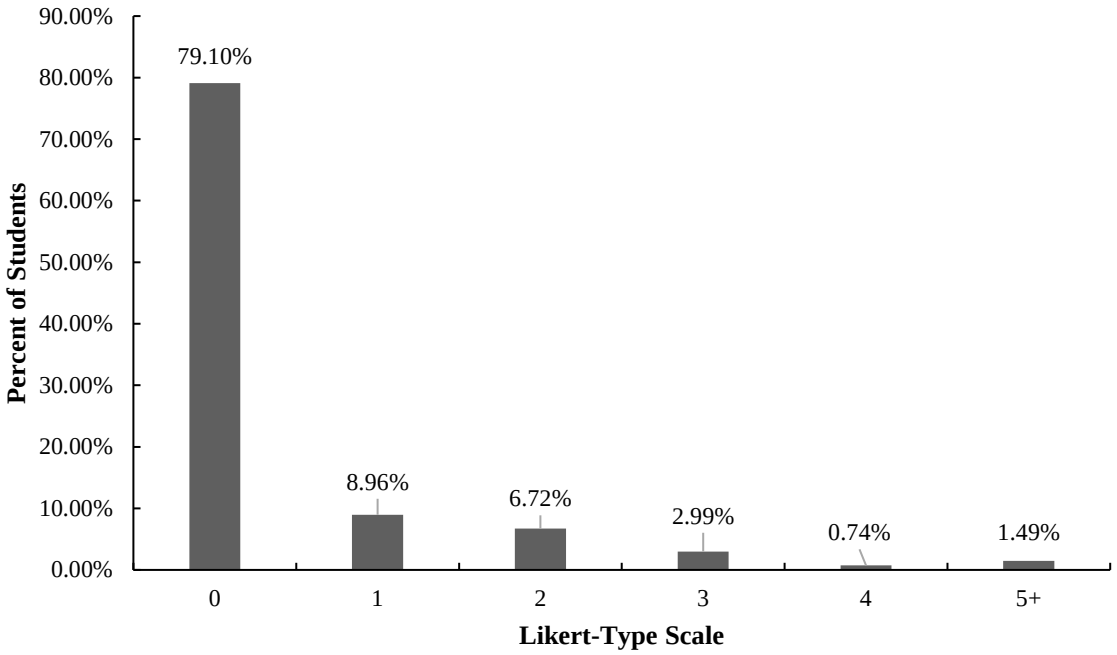
The second research question was analyzed for answer frequency to determine how students at a private, four-year liberal arts university in Missouri reported their library usage. One noted issue in the literature that can also be applied to the library survey is that many students do not realize online library resources such as databases and journals and physical resources such as books are all part of a library collection;

therefore, students may report their actual library usage inaccurately (O'Neill & Guilfoyle, 2015).

Of the 132 eligible students, only 28 (21.22%) reported utilizing the library website to watch a library tutorial on how to find information (see Figure 16).

Figure 16

The Number of Times I Watched a Library Tutorial on the Library's Website to Learn How to Find Information

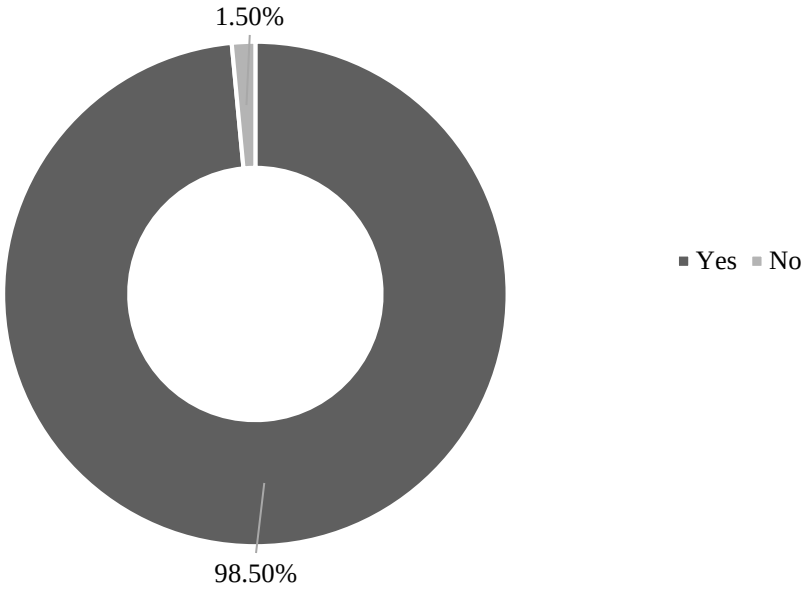


Note. *n*=132.

Fully 98.48% of the 132 students reported using a library resource or service during the previous 12-month period (see Figure 17).

Figure 17

I Have Used Library Resources or Services in the Past 12 Months



Note. *n*=132.

Physical Library Collection

Students who responded they had used library resources in the previous 12 months were asked follow-up questions about how they used or accessed the library resources. The responses were grouped into four categories: physical collection, digital content, media, and library as place.

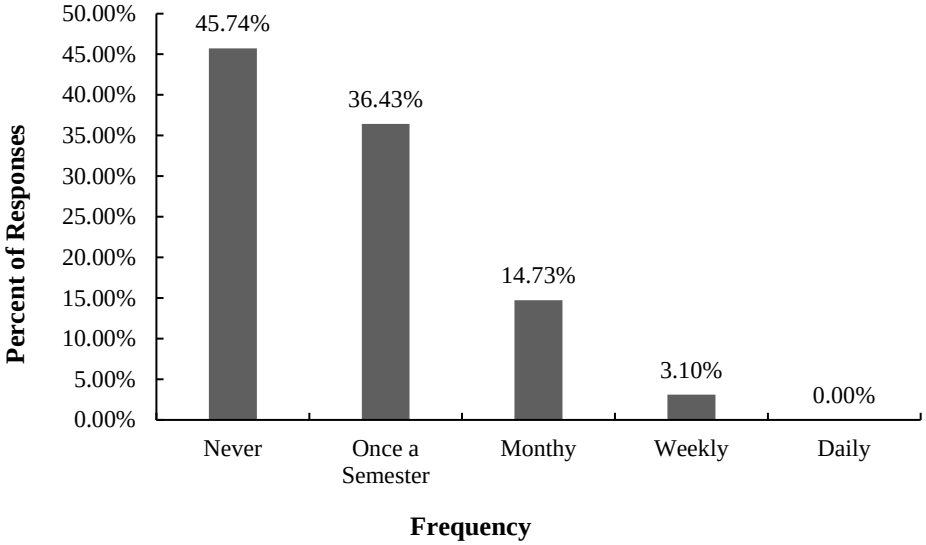
The physical collection includes the general physical books and special collections such as the Faith Enrichment Collection or the Best Sellers Collection which may be a mix of print books, audio books, and DVDs cataloged together. The digital content category includes e-books, digital journals, databases, and streaming content. The media category includes DVDs and audiobooks, as well as other media items in the

physical collection not included in special collections. The library as place category includes reasons individuals come to the library such as study rooms, to use computers or printers, quiet study areas, etc.

The highest response came from students about borrowing books from the general library collection. Over half of the respondents (54.26%) reported using the general library collection at least once in the previous 12 months (see Figure 18).

Figure 18

I Used or Borrowed Books from the General Library Collection

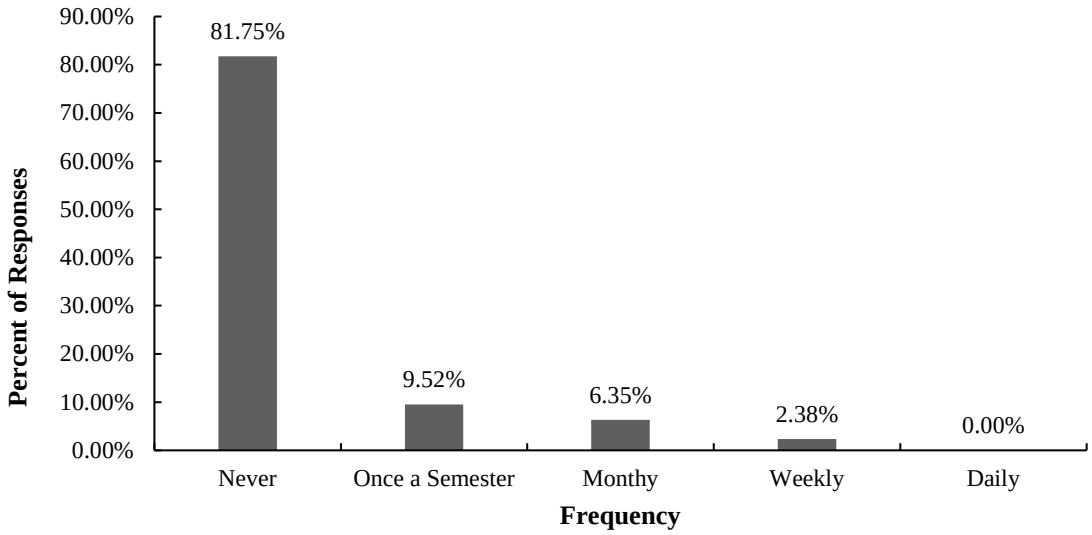


Note. *n*=128.

Of the 126 students who responded to the question about using or borrowing books from the Bestseller Collection (popular fiction and nonfiction section), 18.25% reporting using an item from the collection at least once in the past 12 months (see Figure 19).

Figure 19

I Used or Borrowed Books from the Bestseller Collection

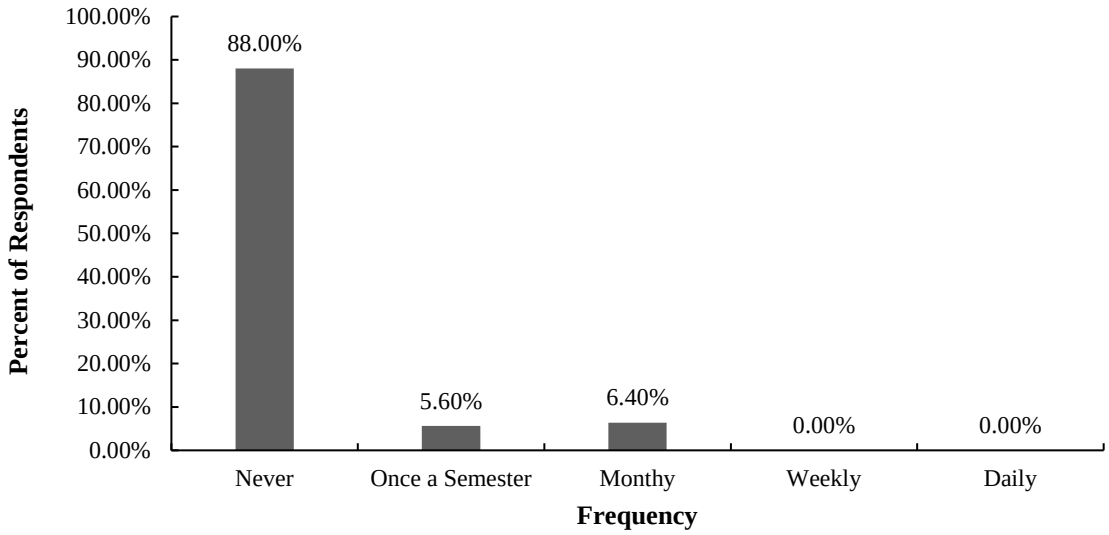


Note. *n*=126.

The Faith Enrichment Collection was reported as one of the least-used collections by the survey participants with only 12% (*n*=15) of respondents having accessed this collection within the past 12 months (see Figure 20).

Figure 20

I Used or Borrowed Books or DVDs from the Faith Enrichment Collection

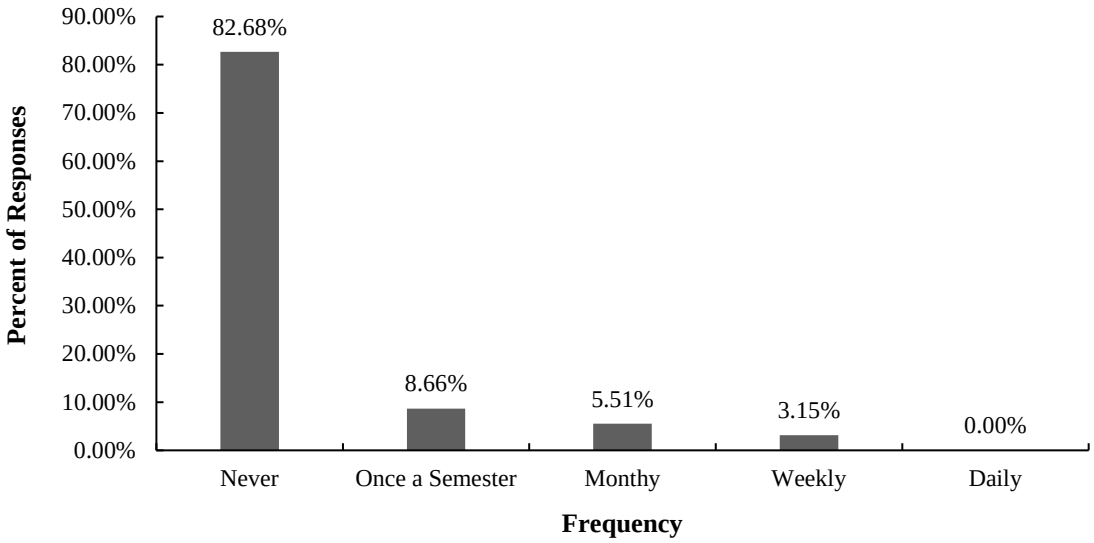


Note. *n*=125

The juvenile/curriculum collection is available for all library users, but is primarily utilized by those in the Elementary Education department. Overall, 17.32% of the 127 library survey responders reported having checked out items from this collection at least once in the previous 12 months (see Figure 21).

Figure 21

I Used or Borrowed Books from the Juvenile/Curriculum Collection



Note. *n*=127.

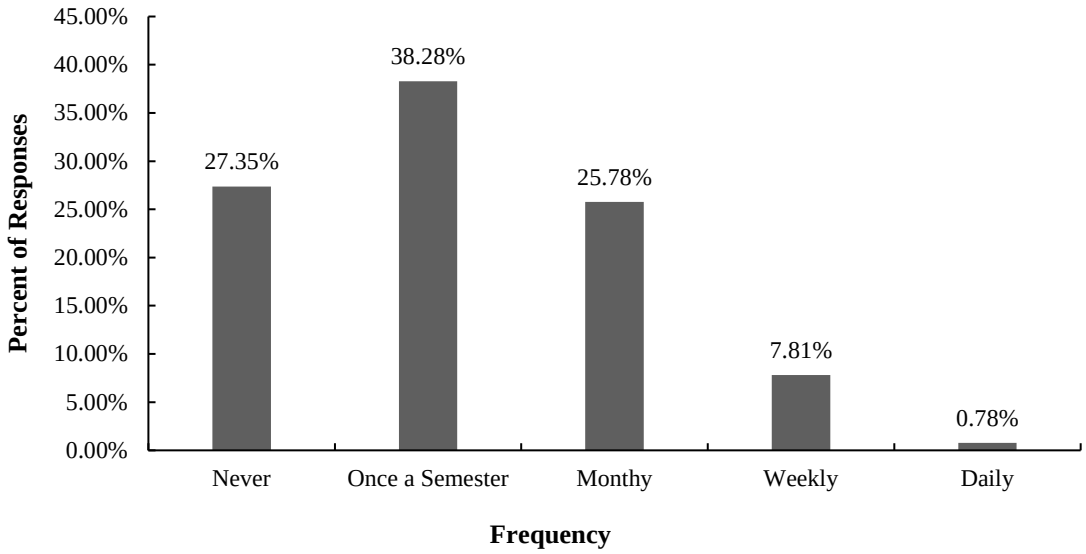
Digital Content

Students reported using digital content at a higher usage rate, with some users reporting using e-books, digital articles, and streaming videos daily. A separate section of the survey was dedicated entirely to e-book use that was not reported for this study.

Of the 128 students who responded to the question about accessing and/or using an e-book from a library database, 72.65% reporting using an item from the collection at least once in the past 12 months (see Figure 22).

Figure 22

I Accessed and/or Used an e-Book from a Library Database

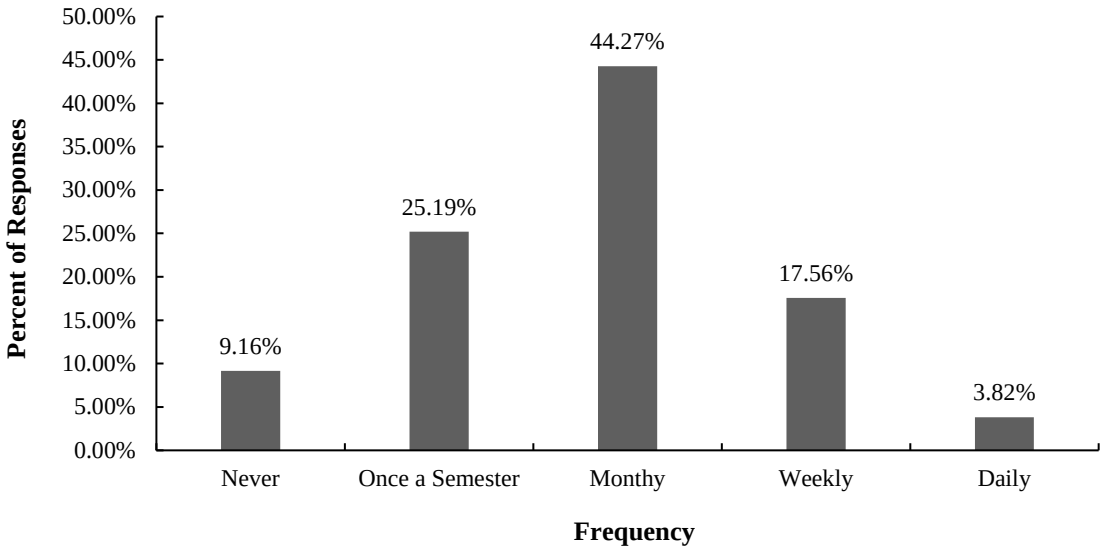


Note. *n*=128.

Databases and journals are the most commonly used resources reported by the 129 students who responded to the library survey. A total of 44.27% of students reported they accessed an article on a monthly basis, 17.56% on a weekly basis, and 3.82% on a daily basis (see Figure 23).

Figure 23

I Accessed and/or Used an Article from a Library Database

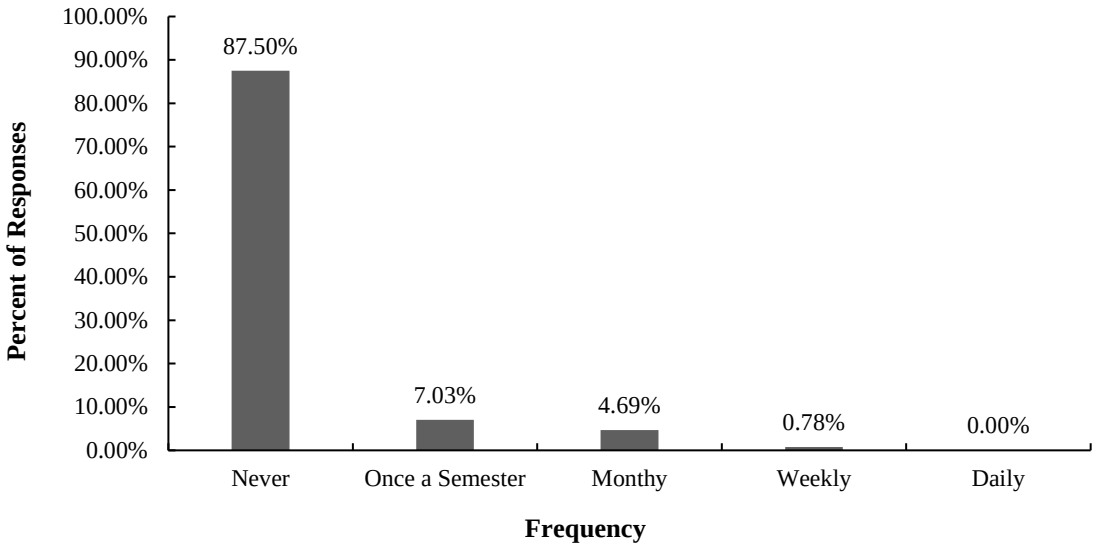


Note. *n*=129.

Streaming audiobooks from library databases were reported as one of the least frequently accessed items by the 127 students who responded to the library survey. Only 12.5% of students reporting accessing streaming audiobooks in the past 12 months (see Figure 24).

Figure 24

I Accessed or Used a Streaming Audiobook from a Library Database

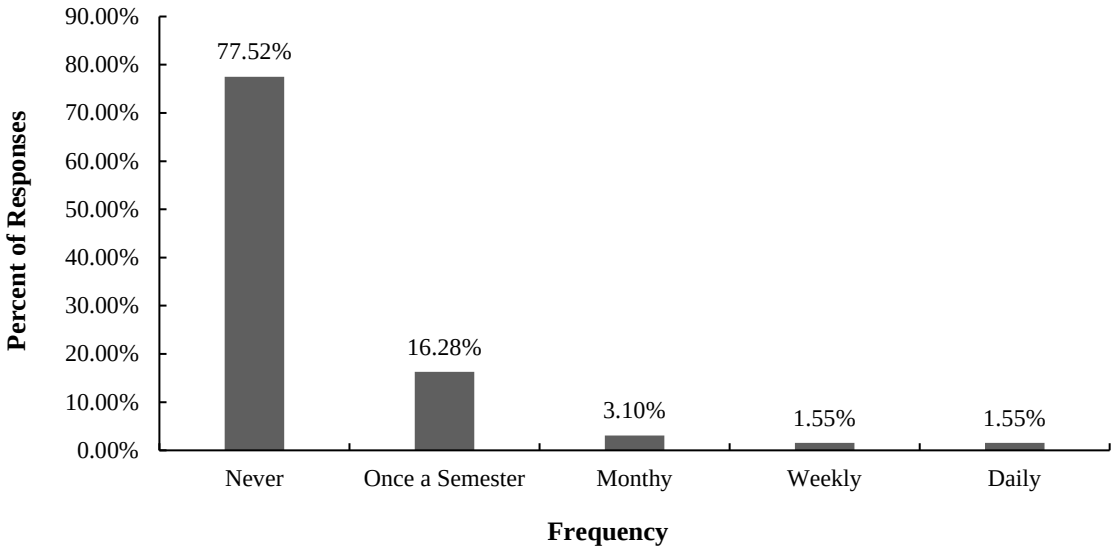


Note. *n*=127.

Streaming videos from a library database were used by 22.48% of 127survey participants within the past 12 months (see Figure 25).

Figure 25

I Accessed or Used a Streaming Video from a Library Database



Note. *n*=127.

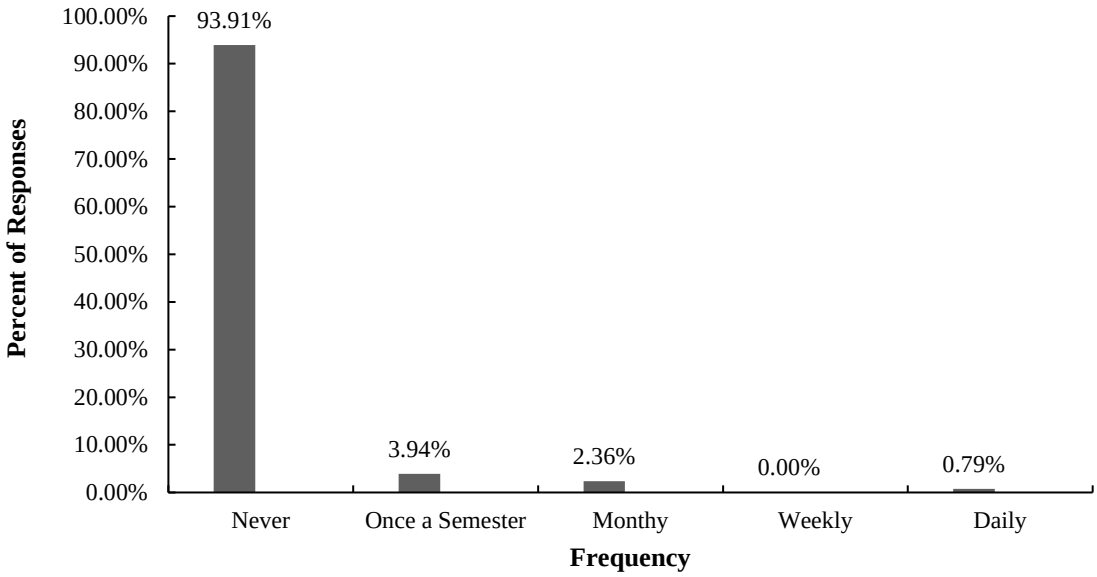
Usage of Physical Media

Students who reported using streaming audiobooks or streaming videos did not also report using physical audiobooks or DVDs. Out of the 127 students who responded, 93.1% selected they had never used or borrowed an audiobook on CD (see Figure 26).

Figure 26

I Used or Borrowed an Audiobook on CD

Note. *n*=

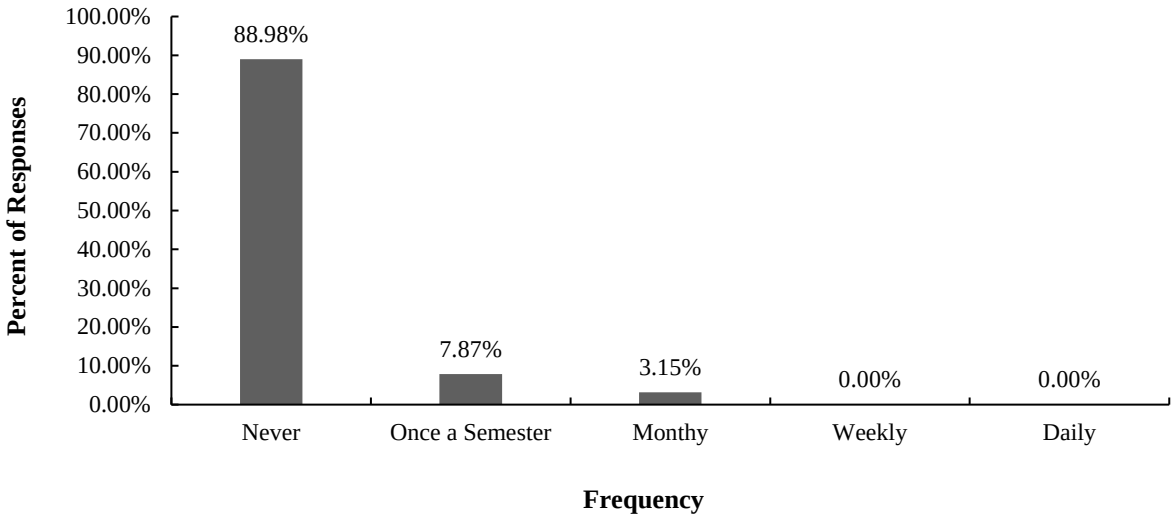


Note. *n*=127.

Of those same 127 respondents, 88.98% reported they had never used or borrowed a video on DVD (see Figure 27).

Figure 27

I Used or Borrowed a Video on DVD



Note. *n*=127.

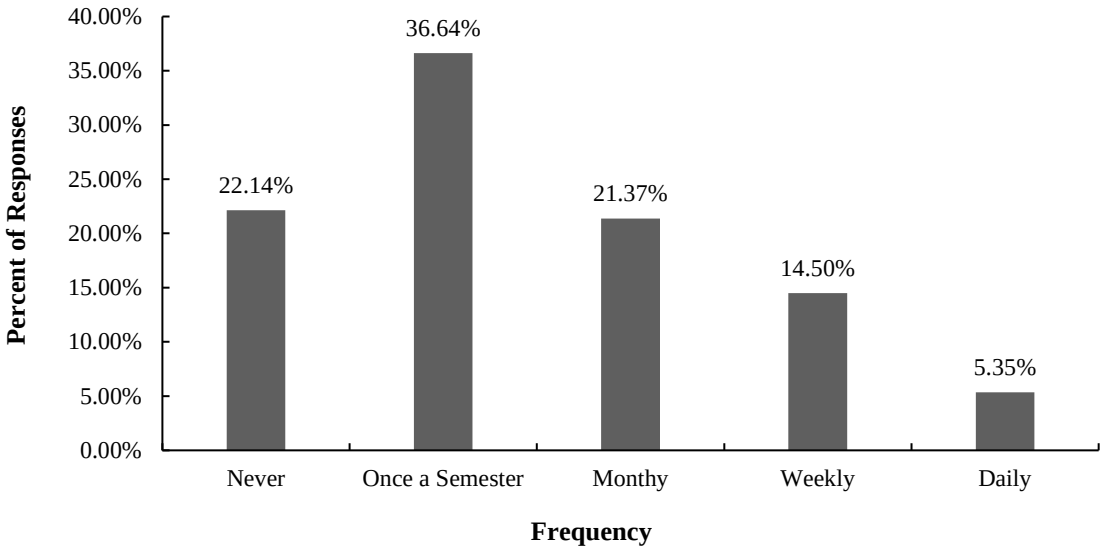
Library as a Place

The final category for students who reported using the library resources or services in the previous 12 months was library as place. Even when students are not using the physical resources the library has to offer such as books and journals, they are frequently using the physical space to study or to access online library resources.

Of the 129 students who responded to the question about library media services (color copying, lamination, etc.), 77.86% reported using the library for a media service at least once in the past 12 months (see Figure 28).

Figure 28

I Use Library Media Services (Color Copying, Lamination, etc.)

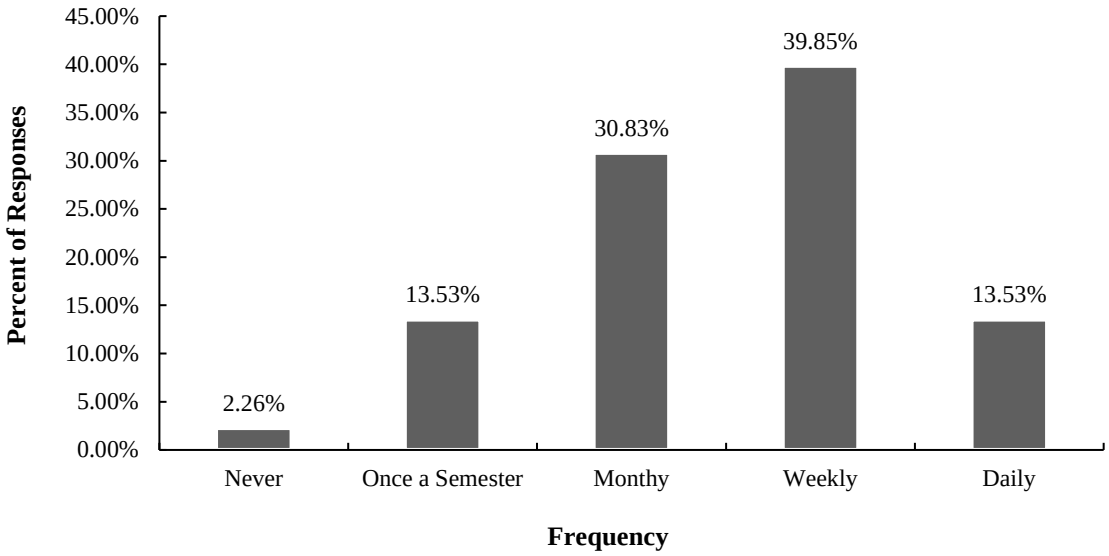


Note. *n*=129.

Of the 132 students, 131 reported having visited the library at their campus to use a service at least once during the past 12 months. Of those visits, 13.53% reported visiting daily and 39.85% reported visiting weekly (see Figure 29).

Figure 29

I Have Visited the Library at My Campus (For Example: Use a Computer, Access a Service, Study in the Library, Use a Computer Lab, etc.)

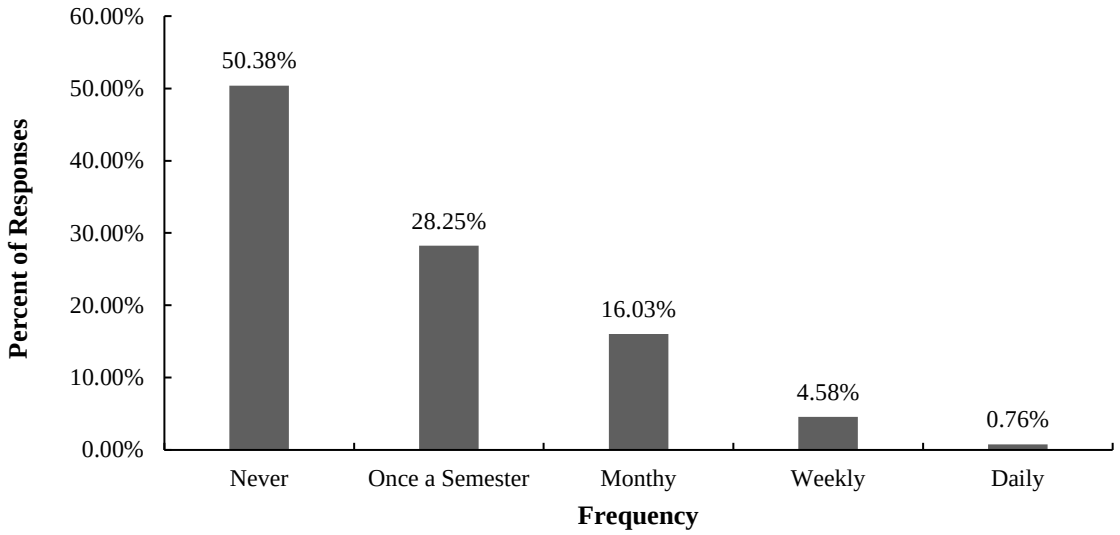


Note. *n*=131.

The last question in reference to library as place asked if students had borrowed a book and/or an article from other libraries (MOBUS or Interlibrary Loan). Of the 129 students who responded to the question, 49.62% reported using this service at least once during the previous 12 months (see Figure 30).

Figure 30

I Have Borrowed a Book and/or an Article from Other Libraries (MOBUS or Interlibrary Loan)



Note. *n*=129.

Research Question Three

What difference, if any, exists between students' ability to critically evaluate information in a graduate nursing course where there is an embedded librarian versus similar students' ability to critically evaluate information in a graduate nursing course where there is not an embedded librarian?

The third research question was analyzed by using the data analysis add-in pack in Microsoft Excel, which calculated the measures of central tendency including the mean, median, mode, and midrange to compare the mean score growth from the matrix assignment (MA) of the Spring 2019 students and the Spring 2020 students enrolled in the Master in Nursing program. As shown in Table 3, data reflect that having an

embedded librarian in the course did result in a positive difference in the overall mean scale scores in the students' ability to critically evaluate information.

Table 3

Summary of Descriptive Statistics of Eligible Students' Ability to Evaluate Information

Group	**Total Points Possible**	***M***
Without Embedded Librarian	60	54.625
With Embedded Librarian	65	62.375
Hypothesized Mean Difference		0

Note. n=9 without embedded librarian, n=9 with embedded librarian.

A two-sample *t*-test was conducted to assess if the *p*-value was less than the α value of .05. With a value of $p \leq .001$, the null hypothesis was rejected, and it was concluded there was a significant statistical difference in the scale scores between the two groups. The alternate hypothesis was not rejected, and it was concluded there is a difference in a students' ability to critically evaluate information in a graduate nursing course with an embedded librarian.

Research Question Four

What difference, if any, exists between the final assignment grade in a graduate nursing course where there is an embedded librarian versus a similar final assignment grade in a graduate nursing course where there is not an embedded librarian?

The fourth research question was evaluated using the Microsoft Excel data analysis add-in pack to compare mean score growth from the final assignment (FA) of students enrolled in the Master in Nursing program during the Spring 2019 and the

Spring 2020. Data in Table 4 show that having an embedded librarian in the course did not result in an overall mean scale score growth for the final assignment grade.

Table 4

Summary of Descriptive Statistics of Eligible Students' Final Assignment Grade

Group	**Total Points Possible**	***M***
Without Embedded Librarian	75	70.5
With Embedded Librarian	100	93.125
Hypothesized Mean Difference		0

Note. n=9 without embedded librarian, n=9 with embedded librarian.

A two-sample *t*-test was conducted to assess if the *p*-value was less than the α value of .05. With a value of $p = 1.23$, the null hypothesis was not rejected, and it was concluded there was a significant positive statistical difference in the mean scale scores between the two groups. The alternate hypothesis was rejected, and it was concluded there is not a significant difference in the mean scores of the final assignment based upon an embedded librarian in a graduate nursing course.

Summary

Secondary data from 132 eligible participants from a private, four-year liberal arts university in Missouri were analyzed for this study. From the library survey data collected, students reported librarians are able to help them find information and services for classes and resources. Students reported they utilize the library as a place even when they are not accessing physical items. From the data collected and evaluated from the Master in Nursing Program, there was not a statistically significant difference in mean

scale score growth for the course having an embedded librarian when compared to the course not having an embedded librarian.

In Chapter Five, the study concludes with a summary of the research and an analysis of the data. The findings, conclusions, implications for practice, and recommendations for future research are included to facilitate embedded librarianship collaboration based on the literature review and the results of the study. Suggestions for modifications to this study are made to help mitigate future studies, navigate existing barriers, and explore possible collaboration variations.

Chapter Five: Conclusions and Implications

Chapter Five includes a review of the main topics of the study, as well as an overview of the key elements for successful embedded librarian collaborations. This study was designed to identify if students taking a course with an embedded librarian demonstrated a higher level of information competency at the end of the course. The data presented in Chapter Four are recapitulated, and the findings are presented. Next, the conclusions supported by the research questions are summarized. The implications supported by the literature review are provided. Finally, areas for future research are proposed.

A quantitative research design was required to effectively assemble and analyze the data needed to answer the research questions proposed in this study (Fraenkel et al., 2019). According to Fraenkel et al. (2019) and Mertens (2019), a basic causal-comparative research design is appropriate as it notes the differences between groups and the causes for or consequences of these differences. The study design included analysis of secondary data that had “already occurred” at a private, four-year liberal arts university in Missouri to answer the posed research questions (Fraenkel et al., 2019, p. 364).

The study took place at a private, four-year liberal arts university in Missouri in the Spring of 2020. Participants of the library survey portion of the study were the 3,078 undergraduate and graduate students who met university eligibility requirements of being enrolled and over the age of 18. Participants of the Master of Nursing Program portion of the study were enrolled in the Spring 2019 nursing research course or the Spring 2020 nursing research and met the eligibility requirements if they were enrolled and if they turned in all assignments. All survey and student information were de-identified.

Findings

Research Question One

What are the perceptions of students regarding library services at one private, four-year liberal arts university in Missouri?

The library survey was analyzed for frequency of answers. It was found that students who had a librarian come into their class to teach how to find information and/or services learned something new. Analyzing these students' perceptions further, they reported the librarians were knowledgeable and able to answer their questions. A relatively small number of students utilized library online tutorials to learn how to find information and/or services; however, those who did reported them easy to find and with a clear methodology. Only 37% of eligible students reported having met the personal librarian assigned to their college, yet over 95% of those students reported the personal librarians were available to help them find information and were accessible when needed. A total of 92.86% felt their personal librarians were able to teach them about a resource or service beneficial for finding information.

One hundred thirty students reported using the library at some point in the previous 12 months. Of the responding students, 80.61% felt confident in their ability to find library materials and in their ability to use campus resources without help. Of the responding students who reported on library resources, 80.77% felt the library provided sufficient resources to support their learning needs. When students reported seeking help from library staff while looking for resources, they felt they were able to get the help they were seeking. The University Archives is a closed collection; however, 66.07% of the responding students felt they could obtain access to the archives if they needed it. Finally,

research guides are compiled by personal librarians to support specific courses or as subject guides. Overall, 109 of the 130 (83.85%) responding students reported finding the guides helpful for their courses or for research.

Research Question Two

At what levels do the students of a private, four-year liberal arts university in Missouri report their library usage?

The library survey was analyzed for student-reported library usage. Nearly every student, 130 out of 132, reported having used library resources in the past 12 months; however, only 21.22% reported using the library website to watch tutorial videos to learn how to find information. The highest percentage of students reported use of the physical collection once a semester from the general collection, followed by monthly usage from the general collection. The next-highest circulation rates were once a semester from the best seller collections/juvenile collections. It should be noted that if students are not familiar with the cataloging system of the library, or only request items online, they may not know in which collection the item they borrowed belongs and therefore may report this usage incorrectly.

The usage for digital content was reported at a much higher rate than for physical content, with several items accessed on a daily or weekly basis such as articles or streaming videos. Content such as articles and streaming videos are often embedded in library research guides to support course materials, so students accessing these formats is not surprising to librarians. Physical media formats were reported to have little to no use. This could be an access issue as the content the students were looking for was not available. Or it could be that physical media, such as DVDs and audiobooks, are

becoming outdated platforms. Because of the outdated platforms issue, many libraries are no longer purchasing physical media items.

Finally, the survey elicited students' usage of the library in relationship to library as place. Students reported they use the library as more than a place to conduct research, as nearly all survey participants had used the library for other purposes such as a study space, computer use, copying, etc. The most frequent usage of library as place was on a weekly basis for access to a computer or study space. Overall, 50% of students who participated in the study also reported having borrowed materials from other libraries through MOBIUS or interlibrary loan to assist in their studies.

Research Question Three

What difference, if any, exists between students' ability to critically evaluate information in a graduate nursing course where there is an embedded librarian versus similar students' ability to critically evaluate information in a graduate nursing course where there is not an embedded librarian?

The third research question was analyzed to compare the mean score growth from the matrix assignment (MA) between the Spring 2019 students and the Spring 2020 students enrolled in the Master in Nursing program. The data reflected that having an embedded librarian in the course did result in an overall mean scale score growth when compared to the course without an embedded librarian. The null hypothesis was rejected, and it was concluded that there was a significant statistical difference in the scale scores between the two groups.

Research Question Four

What difference, if any, exists between the final assignment grade in a graduate nursing course where there is an embedded librarian versus a similar final assignment grade in a graduate nursing course where there is not an embedded librarian?

The fourth research question was evaluated to compare the mean score growth from the final assignment (FA) of students enrolled in the Master in Nursing program during the Spring 2019 and Spring 2020 semesters. Data revealed that having an embedded librarian in the course did not result in an overall mean scale score growth for the final assignment grade. The null hypothesis was not rejected, and it was concluded that there was not a significant positive statistical difference in the mean scale scores between the two groups.

Conclusions

The purpose of this study was to determine if students enrolled in a course with an embedded librarian were able to demonstrate a higher level of information literacy competency at the completion of a course versus students who were enrolled in a course without an embedded librarian. Additionally, this study was designed to determine how students perceive library services provided by the university library and how students report their usage of said resources by analyzing secondary survey data. By evaluating the results of this study, library administrators can more effectively communicate the value of the library to stakeholders. Librarians can better understand how students use library services to prepare information literacy instruction, and teaching faculty and librarians can build scaffolded instruction to increase student success.

Based on the results of the Spring 2020 library survey, the perceptions of students of library services at one private, four-year liberal arts university in Missouri indicated that if students utilize a library service, they find it helpful. Purnell et al. (2020) noted it is challenging to assess the self-efficacy of students. Researchers suggested students may experience lower self-efficacy if they have limited exposure to the library or limited time with librarians, but as they become more confident in a skill, such as research, they are more likely to seek assistance from experts (Gregory, 2018; Purnell et al., 2020; Russell et al., 2018; Stebbing et al., 2019).

The results of the library survey indicated 81.82% (n = 66) of the 70 eligible students who had a librarian attend a class strongly agreed or agreed they learned new and useful ways to find information and/or library services during the librarian-led session. Additionally, 28 of the eligible student survey participants reported having utilized a library-created online tutorial on the library website to learn how to find information. A total of 71.43% (n = 28) of this reporting group reported agreeing or strongly agreeing library video tutorials were useful ways to find information, and 82.15% of the same group of eligible student survey participants reported they felt the tutorials provided a clear methodology for finding information or learning about library services.

Finally, 80.77% (n = 105) of the 130 eligible students reported they agreed or strongly agreed the library provided sufficient resources to support their classroom learning needs. Researchers found that persistent use of library resources has a lasting impact, resulting in increased self-efficacy, sense of belonging, and persistence and retention (Beile et al., 2020; Soria et al., 2017b). As noted by O'Neill and Guilfoyle

(2015), these data could be skewed, as researchers have found that often students are unaware online library resources are considered part of the same library collection as the print collection and therefore could be misreporting, not reporting, or even double-reporting usage.

The Spring 2020 library survey results revealed students of a private, four-year liberal arts university in Missouri reported their library usage at a higher rate than library services, especially digital and streaming resources. A full 98.5% (n = 130) of the 132 eligible students who participated in the library survey reported having used the library in the previous 12 months in some capacity. Library workers have noticed students utilizing the library and library resources, yet struggling to articulate the correlation between library usage and the institutional mission (ACRL, 2015; Allen, 2014; Massengale et al., 2016; Murray & Ireland, 2017, 2018). Library survey-eligible participants reported utilizing physical library resources, such as the print collections, the least, and reported utilizing the library space the most.

Of the 132 eligible students who responded to the library survey, 99.24% (n = 131) reported having visited the library at their campus to use a service at least once during the past 12 months. Of those students, 13.53% reported visiting daily and 39.85% reported visiting weekly. Researchers have noted that students seek the physical library as much for the space as the resources; therefore, ensuring the environment is welcoming and offering flexible spaces for study and research provide opportunities for engagement between staff and students (Croxton & Moore, 2020; Massengale et al., 2016; Soria et al., 2017).

Based on the results of the data analysis from the Master in Nursing program matrix assignment (MA) comparing the Spring 2019 students and the Spring 2020 students in a graduate nursing course, an embedded librarian enabled students to better critically evaluate information than those in a graduate nursing course without an embedded librarian. This supports the research that teaching faculty and embedded librarians who develop scaffolded curriculums, syllabi and assignment schedules aligned with rubrics and information literacy frameworks promote increased student success (Hensley & Davis-Kahl, 2017; Lowe et al., 2020; Wissinger et al., 2018).

The results of the data analysis from the Master in Nursing program final assignment (FA) comparing the Spring 2019 students and the Spring 2020 students in a graduate nursing course, an embedded librarian did not result in a higher final assignment mean scale score. This finding is supported by barriers to embedded librarianship such as not having information literacy competencies properly aligned or lacking full faculty cooperation when teaching the content (Raish, 2018). If the overall Master in Nursing program course grades would have been evaluated from the Spring 2019 students and the Spring 2020 students, or if this study had been conducted during a semester when a world-wide pandemic was not happening, the results may have differed.

The data presented in Chapter Four indicated having a librarian involved in the information literacy education process increases student success (Stebbing et al., 2019; Ullah & Ameen, 2019). The conclusions drawn in this study are based on the current variables of the study (Creswell & Creswell, 2018; Fraenkel et al., 2019). Results of this study may be of use to future librarians, administrators, embedded librarians, and faculty

collaborators when looking to form embedded librarian programs and compare student success based on the method of the library's contribution.

Implications for Practice

Library administrators must demonstrate how they contribute to student success through retention, persistence, and GPA (ACRL, 2010, 2015; Cheng & Hoffman, 2020; Cox, 2018). However, library administrators often struggle to articulate the value of the library to stakeholders without violating patron privacy (ACRL, 2010; Murray & Ireland, 2018). Additionally, library administrators have admitted to collecting data only intermittently, making it unreliable (Wolff-Eisenberg, 2017).

Articulate the Value of the Library

Input and output statistics are the traditional data points library administrators use to communicate usage and value of an academic library (ACRL, 2010; Massengale et al., 2016). Students who use library resources have higher GPAs and are more likely to persist to graduation (Croxton & Moore, 2020; Schwieder & Hinchliffe, 2018; Scoulas & Groote, 2019; Soria et al., 2017). By collaborating with other academic departments to collect student data in a universal institutional repository, the library will not only be able to contribute to stakeholder resources, but will demonstrate its contribution to student success and the value of the library through data that can be kept anonymously (Beile et al., 2020; Croxton & Moore, 2020; Schwieder & Hinchliffe, 2018).

Embed Librarians in Nursing Programs

Based on the findings of this study, an embedded librarian in a graduate nursing course produced a statistically significant difference in mean scale scores on the matrix assignment (MA) and in terms of overall class grades. Overall grades were data not

originally collected; however, grades would be beneficial to evaluate in future studies. This finding is consistent with other studies about the library's influence on nursing student success (McGowan, 2019; Murray & Preston, 2016; Rapchak et al., 2018). Additionally, of the students who had a librarian attend a class to teach how to find and/or use library resources and services, a statistically significant number of students agreed or strongly agreed they learned new and useful ways to find information and/or library services during the librarian-led session.

Collaborate on Curriculums

Providing a scaffolded curriculum that equips future nurses with necessary information literacy competencies rooted in evidence-based practice is the minimum level of educational learning outcomes a nursing program should offer (Wissinger et al., 2018). A successful faculty-librarian collaboration to incorporate information literacy competencies into course and program curricula will result in increased student outcomes (Arp et al., 2006; Jaguszewski & Williams, 2013). The findings of this study indicated a positive difference in the overall mean scale scores from the matrix assignment in the students' ability to critically evaluate information between the course without the embedded librarian and the course with the embedded librarian where there was an alignment of assignments and rubrics to the *Information Literacy Competency Standards for Nursing*.

Explore the Embedded Librarianship Model with Other Programs

The body of research is considerable to support the embedded librarianship model in higher education undergraduate programs (Almeida & Pollack, 2017; Alverson et al., 2019; Burke & Tumbleson, 2016; Raish, 2018). Unfortunately, very little research exists

on the correlation of an embedded librarian in graduate nursing programs and the student success rate (Benjes-Small & Miller, 2017; Ullah & Ameen, 2019). Collaboration and the embedded librarianship model are not for every program; however, the literature and this study supports such collaborations for programs that focus on evidence-based practice, research skills, digital literacy and workplace information competencies such as graduate nursing programs (Carey et al., 2020; Dexter et al., 2019; Raish, 2018).

Recommendations for Future Research

The importance of faculty-librarian collaboration was first mentioned in an article in 1995 by Rader with three critical components: long-term library administration commitment, library and faculty curriculum development, and an institutional commitment to information literacy competencies (as cited in Arp et al., 2006). According to Beile et al. (2020):

> Although there is a growing body of evidence that library use positively correlates with student success, academic libraries typically do not contribute student interaction data to campus wide learning analytics initiatives. (p. 451)

This study resulted in questions that deserve further consideration. The recommendations for future research are in the areas of extending the timeframe of the study, including qualitative components, and collaborating and building partnerships to connect library use and interaction analytics to student data.

Extending the Timeframe of the Study

One of the limitations of this study was that it was limited to one semester (Spring 2020), and the semester when it was conducted was the start of the COVID-19 pandemic. During this semester, a bi-annual library survey was conducted via QuestionPro. The

response rate was significantly lower than survey participation in previous years despite the time frame being extended due to the COVID-19 pandemic (E. Walton, personal communication, October 12, 2020).

To ensure students have mastered information literacy competencies at each scaffolded level, assessment needs to occur more than once (McGowan, 2019; Purnell et al., 2020; Wissinger et al., 2018). An extension of this study could be to assess a cohort throughout their program, conduct a preassessment of their information literacy competencies, administer an assessment after each semester while students are part of a scaffolded curriculum with an embedded librarian, and then to conduct a post-assessment upon completion of the program. The ACRL (2010) is not only interested in becoming an active part of the learning process, but has advocated following the same students for a longitudinal study to collect the most accurate library value data and to determine learning outcomes, which could also produce data for a growth study. Additionally, it would be beneficial to combine data from the survey with internal count data as well as the embedded librarian data to compile a holistic usage picture.

Role of Dialogue in Communicating Value

This study included analysis of secondary quantitative data to determine how students not only use the library and provided resources, but how they feel about those resources. Despite open text boxes provided as part of the survey, dialogue was not an option; therefore, opportunities to ask questions or clarify misunderstandings were not available. By making the study mixed-methods, stakeholders and students alike would be able to provide feedback to ensure the outcomes provided are useful to libraries in

communicating their value as well as contributing to long-term planning (Lowe et al., 2020; Massengale et al., 2016).

Collaborate and Build Partnerships to Connect Library Use and Interaction Analytics to Student Data

Researchers have noted students who use library resources have higher end-of-semester course grades than students who do not access library resources (Alverson et al., 2019; Beile et al., 2020; Lowe et al., 2020). However, not all institutions have a librarian embedded in the classroom or have the technology to correlate library usage to student grades (Almeida & Pollack, 2017; Beile et al., 2020). Manually collected data such as door counts or information literacy session attendance are subject to human errors (Allen, 2014; Murray & Ireland, 2017). Student interaction points can be collected in various ways while maintaining student privacy, and with the right institutional collaboration, can even be linked to student success (see Figure 31). A study utilizing these interaction points would be a mixed-methods study, as interaction points including computer logins, a card-swipe entrance, and circulation statistics would all provide quantitative data, while course-integrated instruction, workshops, and consultations could allow for both quantitative and qualitative data collection.

Figure 31

Services and Resources Currently Being Collected or Planned

Interaction Type	Interaction Point	Notes
Services	InfoLit Modules	Information literacy modules hosted on a UCF-developed platform.
	LMS/Canvas Modules	An introductory library course embedded in the Canvas shell.
	Course-Integrated Instruction	Course content tailored to a specific assignment or learning objectives and generally offered in person.
	Workshops	Library programming designed to promote awareness, build skills, and educate on issues associated with research and learning.
	Consultations	Intensive, one-on-one research assistance with a subject librarian that usually lasts an hour.
	Interlibrary Loan	Items not held by the UCF Libraries that are requested from other libraries.
Space	Study Rooms	Reserved by students for up to four hours: smaller rooms accommodate quiet, individual study while larger rooms can hold groups up to 12 people.
	Computer Logins	All library computers including public PC desktops, collaboration workstations, and study room PCs.
Space	*Card-Swipe Entrance*	*Not currently collected. Card-swipe entrances will be added as the library adds card-swipe entrances to the building and moves to 24/5 status.*
Resources	*Electronic Resources*	*Not currently collected. Electronic resources will be added when OpenAthens is implemented. Data at the article level will not be collected to protect patron privacy.*
	Reserves	*Not currently collected. Reserves will be added when/if data are provided at the state level. Individual title information will not be collected, just the number of circulations.*
	Circulations	*Not currently collected. Circulations will be added when/if data are provided at the state level. Individual title information will not be collected, just the number of circulations.*

Note. Italicized items are planned and not currently in use. From "Aligning Library Assessment with Institutional Priorities: A Study of Student Academic Performance and Use of Five Library Services," by P. Beile, K. Choudhury, R. Mulvihill, & M. Wang, 2020, *College & Research Libraries*, *81*(3), p. 448. (https://doi.org/10.5860/crl.81.3.435).

Summary

The concept of the information-literate individual has been around since the late 1980s (American Library Association, 1989). Since then, the constant bombardment of information has only gotten more constant and can be difficult to process for many individuals (Biando Edwards, 2018; Ewing, 2019). The ability for students to understand the difference between fact-based resources/information and misinformation or disinformation is not something teaching faculty can take for granted (Biando Edwards, 2018; Ewing, 2019; Waltz et al., 2020). It is imperative faculty and librarians teach the process of finding and evaluating information, which is the first step in becoming an information-literate individual (American Library Association, 1989, 2013, 2015).

Academic library leaders have been interested in both becoming an active part of the student learning process and demonstrating how the library contributes to student success (ACRL, 2010). Best practices do not develop easily in terms of library-related student learning outcomes due to the overabundance of published works (ACRL, 2010). The embedded librarianship model, however, allows for scaffolded curriculum with information literacy-aligned competencies (Jaguszewski & Williams, 2013; Wissinger et al., 2018).

Chapter One included a background of the study in information literacy, the charge from the ACRL for academic library administrators to demonstrate the value of institutional libraries, and a review of the study's conceptual framework. Next, the problem guiding the study and the purpose for conducting the study were evaluated. The research questions and hypotheses were presented, followed by the significance of the

study. The chapter concluded with the definition of key terms and an outline of the delimitations, limitations, and assumptions.

Chapter Two began with a review of the problem statement and an overview of the study as well as a more in-depth analysis of the conceptual framework. The review of literature included information about the value of academic libraries and revealed two of the five possible definitions for value identified by the ACRL (2010): how the library demonstrates financial value, or return on investment, and how the library demonstrates impact value, or library value (pp. 20–22). Next, the review of literature included research on information literacy instruction. Researchers have found that students who meet a librarian through an information literacy session are more likely to use the library and the provided resources, resulting in increased student successes (Biando Edwards, 2018; Croxton & Moore, 2020). Additionally, the review of literature covered the embedded librarianship model, which is increasingly replacing the role of the librarian liaison; librarians are finding themselves as co-instructors more frequently in the classroom (Alverson et al., 2019; Fagan et al., 2019; Hensley & Davis-Kahl, 2017; Hess, 2018; Jaguszewski & Williams, 2013). Finally, the review of literature evaluated barriers to the embedded librarianship model including lack of librarian respect, as well as low levels of information literacy competency integration (Fagan et al., 2019; Lowe et al., 2020; Stebbing et al., 2019).

The methodology of the study, as well as the problem statement and the identified research questions were provided in Chapter Three. Next, the research design, population and sample, instrumentation, and data collection methods were established. Finally, the study data analysis methods and the ethical considerations were summarized.

Chapter Four included a review of the purpose and the problem driving this study and included the secondary data results analyzed from the library survey and the Master of Science of Nursing program. Next, the organization of the chapter, a description of the survey-eligible students, and their demographic information were presented. Finally, the findings from the research questions were presented and explained.

Covered in Chapter Five were the conclusions and implications. The findings, highlighted in Chapter Five, included discovery of a statistically significant in the area of the matrix assignment (MA) when students were enrolled in the course with the embedded librarian. No statistically significant difference was found in the mean scale score gain on the final assignment (FA) between the group that had the embedded librarian and the group that did not. The conclusion is there was a positive difference in the overall mean scale scores in the students' ability to critically evaluate information between students enrolled in the course with the embedded librarian and those who were not on the matrix assignment (MA), however, there was no significant difference in the overall mean scale scores on the final assignment (FA) between courses with an embedded librarian and courses without an embedded librarian.

There are several possible reasons for the lack of significant difference in the mean scale scores, with the primary being the timing of the study. Even though the study format did not change, as both classes were held online, the Spring 2020 data were collected during the COVID-19 pandemic. Many students in nursing and health care programs work on the front lines, and healthcare workers during this time were experiencing unprecedented working conditions (Chen et., 2020). Other reasons could include the short time frame and the realignment of assignments to the rubric between

Spring 2019 and Spring 2020 to allow for the *Information Literacy Competency Standards for Nursing* (Phelps et al., 2015; Schoepp et al., 2018).

The implications for practice can assist library administrators when creating or collaborating on a taskforce to demonstrate not only the value of libraries, but to contribute to the institution's data analytics to prove the importance of each department to a student's success. Libraries and nursing programs alike can utilize the findings of this study to create partnerships focused on graduating information-literate nurses prepared for the workforce and beyond. Finally, librarians are in their profession to serve the faculty and to serve the students; by being embedded in the classroom they are able to do both while demonstrating the value of the library to institutional stakeholders.

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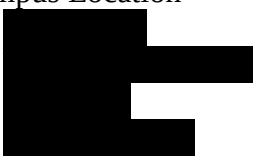
Appendix A

Student Surveys

Demographics

1. Are you 18 years of age or older?
    a. Yes
    b. No (If no, the survey ends)
2. Gender
    a. Male
    b. Female
3. Class:
    a. Freshman (less than 30 hours)
    b. Sophomore (31 to 60 hours)
    c. Junior (61-90 hours)
    d. Senior (91+ hours)
    e. Graduate: Masters
    f. Graduate: Doctoral
4. GPA
    a. Less than 2.0
    b. 2.0-2.49
    c. 2.5-2.99
    d. 3.0-3.49
    e. 3.5+
5. Campus Location

6. Major
    a. Long list from Registrar Office

Section I: Library Instruction

	0	1	2	3	4	5+
The number of times I attended a class in which a librarian visited the class and taught the class how to find and/or use library resources and services. NOTE: if the answer is greater than zero, then ask the following three question; otherwise, skip them.						
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
1. I learned new and useful ways to find information (book, e-book, e-journal) and/or library services in the classroom instruction session.						
2. The librarian was knowledgeable and able to easily answer my questions.						
3. The library instructor's manner was compatible with the values and Christian emphasis of [redacted].						

	0	1	2	3	4	5+
1. The number of times I watched a library tutorial on the Library's website to learn how to find information. NOTE: if the answer is greater than zero, then ask the following three question; otherwise, skip them.						
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
1. The library tutorials were easy to find.						
2. I learned new and useful ways to find information (book, e-book, e-journal) and/or library services from the library tutorial videos.						
3. The library tutorial videos provided a clear methodology to find information or learn about a library service.						
	Yes	No				
I have met the personal librarian assigned to help students in my college. NOTE: if the answer is						

yes, then ask the following three question; otherwise, skip them.						
	Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**	**N/A**
1. My personal librarian was available to help when I needed help.						
2. My personal librarian was able to help me find information.						
3. My personal librarian was able to teach me about a resource or service that was helpful to find information.						

Section II: Resources

I have used library resources or services in the past 12 months.	Yes	No				
	Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**	**N/A**
1. I am generally able to locate resources at my campus library without help.						
2. The resources the University Libraries provides are sufficient to meet my classroom needs.						
3. When I need assistance, I am able to get help finding resources from the library staff.						
4. I am able to access the information needed from the University Libraries' Archives.						
5. The University Libraries' research guides are helpful in finding information for my course or research needs.						

	Never	Once a Semester	Monthly	Weekly	Daily	N/A
1. I used or borrowed books from the general library collection. [Not Faith Enrichment/Best seller Collections]						
2. I used or borrowed books from the Bestseller Collection (popular fiction and nonfiction section).						
3. I used or borrowed books or DVDs from the Faith Enrichment Collection.						
4. I used or borrowed books from the juvenile/curriculum collection.						
5. I accessed and/or used an e-book from a Library database.						
6. I accessed and/or used an article from a Library database.						
7. I used or borrowed an audiobook on CD.						
8. I used or borrowed a video on DVD.						

9. I accessed or used a streaming audiobook from a library database.						
10. I accessed or used a streaming video from a library database.						
11. I use library media services (color copying, lamination, etc.)						
12. I have visited the library at my campus (For example: use a computer, access a service, study in the library, use a computer lab, etc.)						
13. I have borrowed a book and/or an article from other libraries ([redacted] or Interlibrary Loan).						

Section III: E-book Questions

Please select the option that most accurately reflects your experience.	Never	Rarely	Occasionally	Usually	Always
1. I have used an e-book to read for leisure. (Leisure reading means for fun or pleasure)					
2. I have used an e-book to read a class textbook. (Textbook is a book assigned by your professor for your class)					
3. I have used an e-book while conducting research to complete a course assignment. (Examples of this could be using an e-book to find the answer to a question or looking for information to write a paper)					
4. I have used an e-book to read a course-assigned reading. (A professor assigned supplemental reading for a class – not a textbook)					
5. I have used an e-book to read an assigned reading out loud in class. (A professor requested that you read something out loud in class)					
6. When both the printed book and the e-book were available, I chose to use/read the printed book.					
7. When both the printed book and the e-book were available, I chose to use/read the e-book.					
8. I have used an e-book because the printed book was not accessible when I needed to use it.					

9. I have used e-books because it was convenient to access.					

Section IV: Facilities

1. What is most important about your campus library's facility?

2. What would you change about your campus library's facility?

Section V: Your Experience With [redacted] University Libraries

1. If you have a library story that you would like to share, please tell us about it. Was there a time when you used the library virtually/in-person that stands out to you? Why is it a vivid memory? What did you appreciate or what would you change?

2. What could the University Libraries changes that would improve its support of your academic program in the next 3-5 years?

3. If you are willing to have a follow-up discussion about your ideas to improve library support for your program, please click on the link to give us your name and e-mail address. Your survey results will not be associated with your identity. The link will take you to a new survey to answer there and return you to this survey.
   1.

Participate in the Prize Package

In a separate survey, the following questions will be provided to students want to participate in the promotional prizes given as a student participation incentive.

1. Name
2. E-mail
3. Student ID#
4. Campus Affiliation

Appendix B

IRB Approval

Oct 6, 2020 6:21 PM CDT

RE:
IRB-21-31: Initial - Embedded Librarianship and Student Success in Graduate Nursing Programs

Dear Jennifer Brady,

The study, Embedded Librarianship and Student Success in Graduate Nursing Programs, has been Approved as Exempt.

Category: Category 2.(i). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording).
The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects.

The submission was approved on October 6, 2020.

Here are the findings:

Regulatory Determinations

- This study has been determined to be minimal risk because the research is not obtaining data considered sensitive information or performing interventions posing harm greater than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests.

Sincerely,
Lindenwood University (lindenwood) Institutional Review Board

Appendix C

Review of Literature (ROL) Part 2

The purpose of the ROL 2 assignment is to critique the literature that you identified in ROL part 1. This will help you systematically review the literature as a whole and synthesize the findings in part 3. Based on this critique, you will draw conclusions to help you determine an evidence-based MSN project. Polit and Beck Chapter 5 contains vital information to on how to critique your articles. Your faculty are available for support and individual meetings as needed. For this assignment, you will submit the matrix.
To receive full credit, the matrix must contain the following information for EACH research Article:

1. **APA citation**: All articles are cited properly in APA 7th Edition. Permalink included.
2. **Type/Design of Study (Quant./Qual./Mixed Methods)**: Types of studies are accurately identified.
3. **Aim of study:** Aim of study accurately described for at least 10 studies critiqued.
4. **Variables**: Correctly identifies variables for at least 10 studies critiqued.
5. **Framework/Theory (if one is not utilized, please indicate):** Framework/Theory accurately described if present for at least 10 studies critiqued.
6. **Population/Sample/Setting:** Population/Sample/Setting correctly described for at least 10 studies critiqued.
7. **Tools/Tests Used:** All Tools/Tests used in accurately described for at least 10 studies critiqued.
8. **Results/Data/Analysis/Findings:** Accurately describes statistical outcomes for at least 10 studies critiqued.
9. **Reliability/Validity for quantitative articles:** Accurate description of the strengths, limitations, and bias for each quantitative study critiqued.
10. **Trustworthiness/researcher reflexivity/triangulation- for qualitative articles:** Accurate description of the strengths, limitations, and bias for each qualitative study critiqued
11. **Strengths/Limitations/Bias:** Accurate description of the strengths, limitations, and bias for at least 10 studies critiqued.
12. **Implications for future research/Gaps/Author integrity:** Clearly identifies implications for nursing practice, policy, education, and/or future research for at least 10 studies critiqued. All information accurate.
13. **Themes/Tags:** Appropriate themes of articles are identified and described for at least 10 studies critiqued. Tags are utilized in a way to make searching themes easier when available.

Appendix D

Review of Literature (ROL) Part 3

In this assignment, you will use components of ROL 1 and ROL 2 to complete your systematic literature review. The paper will be structured to APA 7th edition. You must use a citation manager of your choice. The criteria are listed here. Review the rubric attached above for requirements for each level of achievement.

Three additional documents have been added to this folder

Search Methods ROL - example of the search methods section from ROL and the content that should have been in each section.
Search Methods ROL 3- example is how to take search methods section from ROL and synthesize it into a cohesive Search Methods section for ROL 3. You will delete the subheadings in this section from the template and all off your content will be under the main heading
Example ROL 3 example is intended to provide just an example of the paper, this is not an accurate paper, and is just an example, it is not a perfect example, so please ensure that you utilize APA formatting for your final ROL 3 paper.
If you have any questions about this, please reach out to Dr. Zahn or Mrs. Brady. **

Search Methods - ROL 1.docx
Search Methods - ROL 3.docx
ROL 3 Rubric
MSN 5083_example ROL 3. Reference Only Not complete.docx

Appendix E

NUR 5083 Review of Literature
2nd Submission Rubric - 65 Points
Research Matrix

Criteria / Level of Achievement	On your way to expert	On your way to proficient	Novice
	5 points	4 point	3 points
APA Citation	All articles are cited properly in APA 7th Edition. Permalinks included for all articles.	Most articles are cited properly in APA 7th Edition, minor issues. Permalinks included for all articles.	Multiple citation errors or not in APA 7th Edition. Permalinks missing.
	5 points	4 points	3 points
Articles	10 or more articles identified that support answering the research question. Articles retrieved include quantitative, qualitative and no more than 1 systematic review. All articles are research reports.	Less than 10 critical articles gathered from multiple, research-based sources. More than one review article present.	Less than 5 critical articles gathered from multiple, research-based sources. Multiple review articles included.
	5 points	4 points	3 points
Type/Design of study/Location (Quant./Qual./Mixed Methods)	Types of studies are accurately identified for at least 10 studies critiqued.	Types of studies are identified for at 8 studies critiqued. A few errors.	Multiple studies are inaccurately identified.
	5 points	4 points	3 points
Quantitative-Reliability/Validity for each article;	Description accurately summarizes qualitative or	Description accurately summarizes qualitative or	Description accurately summarizes qualitative or

or Qualitative-trustworthiness, researcher reflexivity, triangulation	Quantitative information for at least 10 studies critiqued.	Quantitative information for at least 8 of the 10 articles.	Quantitative information for fewer than 8 articles. .
Framework/Theory	5 points Framework/Theory accurately described if present for at least 10 studies critiqued.	4 points Framework/Theory accurately described if present for 8 out of 10 articles.	3 points Framework/Theory accurately described if present for fewer than 8 articles.
Aim of study	5 points Aim of study accurately described for at least 10 studies critiqued.	4 points Aim of study accurately described for 8 studies.	3 points Aim of study accurately described for fewer than 8 studies.
Variables: Intervention/Independent; Dependent; Controlled	5 points Correctly identifies variables for at least 10 studies critiqued.	4 points Correctly identifies variables for 8 studies.	3 points Correctly identifies variables for fewer than 8 studies.
Population/Sample/ Setting	5 points Population/Sample/ Setting correctly described for at least 10 studies critiqued.	4 point Population/Sample/ Setting described for 8 studies. Few inaccuracies.	3 points Population/Sample/ Setting correctly described for fewer than 8 studies. Multiple inaccuracies.
Tools/Tests Utilized	5 points All Tools/Tests used in accurately described for at least 10 studies critiqued.	4 point Tools/Tests used described for 8 studies. Few inaccuracies.	3 points Tools/Tests used described for fewer than 8 studies. Multiple inaccuracies.
	5 points	4 points	3 points

Results/data analysis/findings	Accurately describes statistical outcomes for at least 10 studies critiqued.	Describes statistical outcomes for all 8 studies. Mostly accurate descriptions. .	Describes statistical outcomes for fewer than 8 studies. Multiple inaccuracies in data analysis descriptions.
	5 points	4 points	3 points
Strengths and limitations and bias	Accurate description of the strengths, limitations, and bias for at least 10 studies critiqued.	Accurate description of the strengths, limitations, and bias for 8 studies critiqued. Few errors in descriptions.	Description of the strengths, limitations, and bias for fewer than 8 studies critiqued. Multiple errors in descriptions.
	5 points	4 points	3 points
Implications for future research and or gaps identified	Clearly identifies implications for nursing practice, policy, education, and/or future research for at least 10 studies critiqued. All information accurate.	Clearly identifies implications for nursing practice, policy, education, and/or future research for 8 studies critiqued. Most information accurate.	Identifies implications for nursing practice, policy, education, and/or future research for fewer than studies critiqued. Multiple areas of inaccuracy.
	5 points	4 points	3 points
Themes/Tags	Appropriate themes of articles are identified and described for at least 10 studies critiqued. Tags are utilized in a way to make searching themes easier when available.	Appropriate themes of articles are identified and described for 8 studies critiqued. Tags are utilized in a way to make searching themes easier when available.	Appropriate themes of articles are identified and described for fewer than 8 studies critiqued. Tags are utilized in a way to make searching themes easier when available.

Appendix F

NUR 5083 Review of Literature
3rd Submission Paper Rubric - 100 points

Criteria / Level of Achievement	On your way to Expert	On your way to Proficient	Novice
Title Page	5 points Follows APA guidelines regarding title page. Correct Running Head on all pages.	4 points 1-3 errors in title page and/or running head	3 or less points Multiple mistakes in formatting.
Introduction: Problem Identification/Background Significance	5 points Grabs the reader's attention. Interesting beginning in an introductory manner. Accurate and concise description of the issue/problem. Information is factual from valid and reliable primary sources and demonstrates expert knowledge from the author about the local problem. Significance of topic in your local setting and the population. Grabs the reader's attention. Interesting beginning in an introductory manner. Describes	4 points Describes information but does not provide an interesting beginning or too many details for an introduction. Missing either information from the literature to support the background or missing information regarding the local problem.	3 or less points Either missing large portions of the background data or local problem.

	statistics or information from the literature to support the problem. Includes if it is a current problem/timelines s. Synthesizes information as appropriate.		
PICO/Research Question	5 points Clear and concise research question. Provides enough information to guide the literature review.	4 point Research question identified. Wording needs adjustment to guide the literature review.	3 or less points Question lacks depth or information to guide literature review.
Search Methods	5 points Search Methods clearly and concisely described and include search strategy, database/s used, and keywords; Inclusion/Exclusion criteria.	4 points Search methods described. Missing partial information regarding search methods or strategies.	3 or less point Search methods identified, but many gaps in process. Not enough information provided to replicate search.
Similarities/Differences in Type of study/Design (Quant./Qual./Mixed Methods)	5 points Designs of all included studies accurately described and synthesized.	4 points Designs of included studies described and synthesized. Missing some information.	3 or less points Design of studies are inaccurately identified and/or missing large amounts of information.
Similarities/Differences between study aims	5 points Similarities/Differences between studies critiqued	4 points Similarities/Differences between studies critiqued	3 or less points Similarities/Differences between studies critiqued

	are grouped, described and synthesized accurately and concisely.	are grouped, described and synthesized. Some areas of incorrect grouping or lack of synthesis identified.	are incorrectly grouped, described and/or synthesized. Lack of synthesis for majority of studies.
Similarities/Differences between study variables	5 points Similarities/Differences between variables described, described and synthesized accurately and concisely.	4 points Similarities/Differences between variables identified, described and synthesized. Few errors noted.	3 or less points Multiple errors in Similarities/Differences between variables described.
Similarities/Differences between Framework/Theory	5 points Theoretical frameworks used in studies reviewed identified and synthesized. If a dominant framework emerged as being most prevalent, this framework is accurately described.	4 points Theoretical frameworks used in studies reviewed identified and synthesized. May be missing some information. If a dominant framework emerged as being most prevalent, this framework is described. May need more detail or development.	3 or less points Frameworks used in studies not described or describe inaccurately.
Similarities/Differences between populations	5 points Terminology used correctly. Similarities/Differences in population are accurately identified. Population discussions are accurately	4 points Terminology used correctly. Similarities/Differences in population are accurately identified. Population discussions are inaccurately	3 or less points Terminology used incorrectly. Similarities/Differences in population are inaccurately identified. Population discussions are not grouped and there

	grouped and synthesized.	grouped and poorly synthesized.	is no synthesis in the discussion.
Similarities/Differences between settings	5 points Terminology used correctly. Similarities/Differences in setting is accurately identified. Setting discussions are accurately grouped and synthesized.	4 points Terminology used correctly. Similarities/Differences in setting is accurately identified. Setting discussions are inaccurately grouped and poorly synthesized.	3 or less points Terminology used incorrectly. Similarities/Differences in setting is inaccurately identified. Setting discussions are not grouped and there is no synthesis in the discussion.
Similarities/Differences between tools/tests used	5 points Similarities/Differences in tools between studies critiqued are grouped, described and synthesized accurately and concisely.	4 points Similarities/Differences in tools between studies critiqued are grouped, described and synthesized. Some areas of incorrect grouping or lack of synthesis identified.	3 or less points Similarities/Differences in tools between studies critiqued are incorrectly grouped, described and/or synthesized.
Similarities/Differences between Results/Data/Analyses/Findings	5 points Describes similarities/differences between data/analysis/findings with evidence of critical analysis of the tools used.	4 points Describes similarities/differences between data/analysis/findings with evidence of critical analysis of the tools used. Few errors noted.	3 or less points Weak description of similarities/differences between data/analysis/findings. Lacks critical analysis of the tools used. Few errors noted.
Reliability/Validity	5 points	4 points	3 or less points

	Accurate and concise description of strengths and weakness in reliability and validity in quantitative studies reviewed. Trustworthiness/researcher reflexivity/triangulation strengths/weaknesses described for qualitative studies.	Description of strengths and weakness in reliability and validity in quantitative studies reviewed with some errors noted. Trustworthiness/researcher reflexivity/triangulation strengths/weaknesses described for qualitative studies with some errors noted.	Superficial description of strengths and weakness in reliability and validity in quantitative studies reviewed with multiple errors noted. Trustworthiness/researcher reflexivity/triangulation strengths/weaknesses described for qualitative studies with multiple errors noted.
Strengths/Limitations /Bias	5 points Accurate and concise synthesis of strengths, limitations, and bias for studies critiqued.	4 points Synthesis of strengths, limitations, and bias for studies critiqued with a few errors noted.	3 or less Multiple errors in synthesis of strengths, limitations, and bias for studies critiqued.
Gaps in Knowledge/Author integrity	5 points Clearly identifies with critical analysis the gaps for nursing practice, policy and/or education identified through literature review.	4 points Analysis is not critical. Gaps are not clearly defined.	3 or less points Large amounts superficial or missing.
Implications for Future Research	5 points Clearly identifies with critical analysis the findings have for future research.	4 points Analysis is not critical. Implications are not clearly identified.	3 or less points Large amounts superficial or missing.

Themes/Findings Identified	5 points Based on the literature review, 2-4 appropriate themes are identified and described in a cohesive manner.	4 points Based on the literature review, themes are identified and described. Needs some refining, but themes are generally correct.	3 or less points Lack of identification of appropriate themes. Multiple areas needing refining.
Conclusion	5 points Concise, engaging and accurate conclusion summarizing main points in an engaging manner.	4 points Conclusion summarizes main points. Needs minor refinement.	3 or less points Conclusion is poorly worded or missing.
References	5 points Reference page is polished and free of errors in APA 7th Edition. Use of citation manager evident.	4 point Reference page contains minor errors in APA 7th Edition. Use of citation manager evident.	3 points Reference Page contains multiple errors in APA 7th Edition. No use of citation manager.
Table/Appendix	5 points Follows APA formatting. Includes Review of Literature table.	4 points A few missing materials or incorrect formatting in some areas. Includes Review of Literature table.	3 or less points Multiple missing materials and little to no attempt to follow APA guidelines for the appendix.

Vita

Jennifer Brady is currently the Library Director for the Southwest Baptist University Springfield Campus. Brady holds a Bachelors of Secondary English Education degree from Missouri State University and a Master of Library and Information Science degree from the University of Washington iSchool in Seattle, Washington. She is a proud member of the Medical Library Association and has held her Academy of Health Information Professionals certification since 2017.

Brady has a long history working with and in libraries. Prior to her transition to academic libraries, she worked in public libraries for three years. As her culminating project for her Girl Scout Gold Award in 1997, she started a library in her community homeless shelter that remained operational until the shelter closed in 2013. Brady continues to reside in the Ozark Mountains where she was born and raised.