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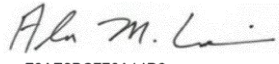
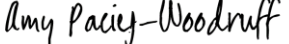
The PhD Program in Strategic Leadership and Administrative Studies

The Experience of Self-Directed Learning in Informal Learning Spaces of the Academic Library

By

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Submitted in Partial Fulfilment of the Requirements for the Degree of
Ph.D. in Strategic Leadership and Administrative Studies

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Abstract

This qualitative study explores how the physical and social characteristics of informal learning spaces in academic libraries influence self-directed learning experiences for university students in Northeast Pennsylvania (NEPA). Informal learning spaces are defined in this study as spaces that are self-selected by the student and provide for private or collaborative learning experiences in an inviting atmosphere that are in proximity to formal learning spaces.

Using Amedeo Giorgi's descriptive phenomenological method, the researcher conducted 14 in-depth interviews to determine the essential structure of the self-directed learning experience. Meaningful descriptions from the participants' interviews were transformed using imaginative psychological language until five invariant constituents of the experience emerged.

In descriptive phenomenology, the researcher is not looking for themes, or causation but rather invariant constituents which are elements of an experience that, if removed, would alter the phenomenon to the degree that it no longer retains its essence. The invariant constituents that emerged from the interviews were 1: *Distinct Psychological Space that Signals Expectations for Academic Work*, 2: *Engagement Through the Use of Materials and Tools*, 3: *Agency to Navigate and Shape the Study Environment*, 4: *Self-Regulation through Management of Attention*, and 5: *Dynamic Prioritization of Academic Work*. From these five invariant constituents, an essential structure of the phenomenon was developed to describe how they work together to make up the self-directed learning experience.

The structure was interrogated and explored to gather a deeper understanding of the phenomenon and its implications. The researcher concluded that rich qualitative data that describes the learners' experiences in informal learning spaces can provide librarians, library

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administrators, and library designers with valuable evidence of the impact of the library on student success. The design and outcomes of this study demonstrate its validity as a framework for academic library assessment practices.

Keywords: *academic libraries, self-directed learning, informal learning spaces, descriptive phenomenology, library assessment*

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Dedication

I dedicate this dissertation to my sons, Owen and Alex. Because of you, I have accomplished things I never would have had the courage or confidence to pursue on my own. You gave me the strength to keep moving forward, to face challenges with determination, and to view obstacles not as barriers but as opportunities for growth.

I am deeply grateful that you were by my side throughout this journey. Time and again, I faced my fears and stepped beyond my comfort zone because I wanted to show you what is possible through focus, perseverance, and belief in yourself. I wanted to demonstrate that success comes from playing the long game and continuing forward even when the path is difficult.

More than anything, I hope this work serves as a reminder that with resilience, dedication, and courage, you can achieve far more than you ever imagined.

With all my love,

Mom

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I would like to express my love and appreciation for my family and friends that have stood beside me through this journey without hesitation.

To Gilly, Paula, and Debbie, thank you for listening to me and truly hearing me when I needed to share both my vulnerability and my confidence during this process. I am deeply grateful to have friends with whom I can be my most authentic self.

Lastly, I would like to thank my parents, Tom and Delores, for their unwavering love and support; you were always there in whatever way I needed, offering your time and helping hands without hesitation. Thank you for being such a loving and important presence in Owen and Alex's lives. I am grateful for the countless ways you helped make this a reality.

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Chapter One

The Problem and Its Setting

Introduction

In 2010, the Association of College and Research Libraries (ACRL) published the foundational work, *Value of Academic Libraries: A Comprehensive Research Review and Report* prepared by Megan Oakleaf, which offered a data-driven approach to assessing and demonstrating the value of academic libraries to universities' missions and goals. This work grew out of the larger national conversation during the early 2000s around accountability and quality in higher education (Kelchen, 2018; Natow, 2022). Since then, scholars and practitioners have continued the work described by Oakleaf and explored approaches to academic library assessment (Badia, 2020; Association of College and Research Libraries, 2017; Jamieson, 2016; Zaugg et al., 2022). This has been done in congruence with the purpose and function of academic libraries changing (Barton, 2018; Cox, 2023; Onwusu-Ansah & Korkuvi, 2023; Oyedokun, 2024) and the role of librarians evolving over the past few decades (Aslam, 2022; Mandal & Dasgupta, 2019; Knight, 2017).

Up until the late part of the twentieth century, academic libraries primarily served as “book boxes” that warehoused books, provided quiet study spaces for students, and offered reference services for patrons (Oliveria, 2018). In the last thirty years, academic libraries have transformed into learning commons, as they are referred to on many campuses (Allison, et al., 2019; Bummer & Kenton, 2017; O'Donnell & Anderson, 2022). “...the early 1990s onwards ushered in a rapid flow and expansion of digital technologies that transformed the nature and scope of university activities more generally and the library more overtly” (O'Donnell & Anderson, 2022, p. 238). Features of the learning commons include a mix of quiet and social

learning spaces, access and support for technology, multimedia resources, makerspaces, cafes, classrooms, as well as the physical book collection, and access to reference librarians. Some learning commons also integrate institutional resources like advising, tutoring & writing centers, career services, and disability services to meet students' just-in-time needs in one central location (Cox, 2021; O'Donnell & Anderson, 2022; Turner et al., 2013).

The expansion and ubiquitous use of technology was not the only reason academic libraries shifted into learning commons. During this same time period, educational research and pedagogical approaches were changing to support student engagement, retention, and outcomes. In 2008, George D. Kuh identified eleven high impact practices (HIPs) that supported student success particularly for traditionally underserved students: capstone courses and projects, collaborative assignments, common intellectual experiences, diversity and global learning, eportfolios, first-year seminars and experiences, internships, and learning communities. Academic libraries adapted to offer both new spaces and services to support HIPs. Librarians partnered with teaching faculty to engage new pedagogical approaches and integrate technology (Mandal & Dasgupta, 2019). As spaces and services have changed, academic libraries have been challenged to figure out how to assess these new functions and continue to demonstrate their value to the higher education enterprise.

One of the features of the learning commons that supports the needs of the current educational environment are informal learning spaces which offer private and collaborative learning areas in an inviting atmosphere that are in proximity to library resources and librarians (Badia, 2020; Cunningham & Walton, 2016; DeFrain et al., 2022). These spaces are frequently utilized by students and faculty for self-directed learning (SDL) outside the formal learning space. SDL is an approach to learning where the student sets goals, plans, manages, and assesses

their learning (Abeyrathne & Ekanayake, 2019; Karatas & Arpaci, 2021; Knowles, 1975; Du Toit-Brits et al., 2024). The success of SDL is determined by the learner and is not readily evident to librarians thus it is difficult to assess the impact of academic libraries' informal learning spaces on SDL. Researchers have taken several approaches to study learning in informal learning spaces including quantitative, qualitative, and mixed-methods approaches. User satisfaction, psychological aspects, and learning outcomes have been studied but no single approach has been accepted as the most reliable (DeFrain et al., 2022). Furthermore, no one approach has emerged for practice and systematically applied to assess SDL in informal learning spaces in academic libraries.

The target audience for this study includes academic librarians, higher education assessment professionals, academic library and higher education administrators, and library space planners and designers. The outcomes of this study can provide insight on how libraries and librarians can provide evidence that they are significant contributors to teaching and learning in the higher education landscape. It can also provide an assessment process for informal learning spaces that are not part of a library's learning commons but exist in other areas of a university campus. This extends the implications of this study to the broader academic community.

Theoretical Framework

Two theories guide this research: Behavior-Setting Theory (BST) and Self-Determination Theory (SDT). Both theories have been widely discussed in educational research, particularly in relation to the cognitive, psychological, and social aspects of learning.

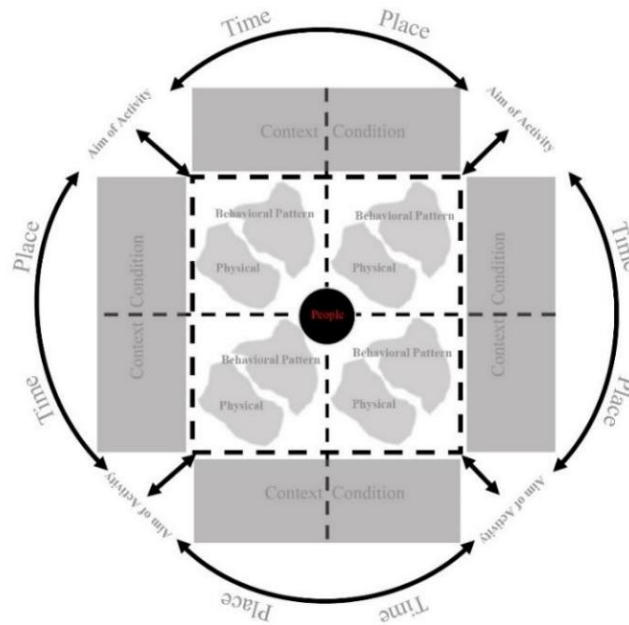
Behavior-Setting Theory

BST grew out of observations of children conducted by University of Kansas researchers Roger Barker and Herbert F. Wright, over several decades at the Midwest Psychological Field Station in Oskaloosa, Kansas during the mid-20th century (Avram, et al., 2024; Barker, 1968; Kalis, 2023; McGann et al., 2024). The theory and method developed by Barker and Wright was an approach to understanding the differences of children's behavior in relation to the physical space and milieu that the subjects inhabited. After decades of observations, their initial hypothesis was disproved. "Instead, the researchers found that differing behavior patterns were closely associated with different places at particular times and not with different persons" (Barker, 2016, p.42). They observed that settings have a significant impact on behavior even when one of the most basic aspects of being human is the instinct to self-determine (McGann, 2024). Barker and Wright not only observed this behavior, but they also developed a method for identifying distinct behavior setting locations. This was done using the K-21 measure which would allow the researchers to develop a K-value for a space and determine if it was a distinct behavior setting location (Barker, 2016). The K-21 method included a structural test which had five criteria that identified the physical elements of a space and a dynamic test which had seven criteria that would assess the behaviors in the space (Avram et al., 2024, p.2). For example, just considering the library as a behavior setting may not take into consideration distinct behaviors at the reference desk or the circulation desk. Barker and Wright's method would identify these sub settings using the K-value method. "Decades of observation demonstrated that the best predictor of what people did was not antecedent events, nor the personal traits or characteristics of individuals themselves, but the behavior setting - that is, the standing pattern of joint activity,

which was interdependently related to the physical and temporal structure in which these individuals were embedded” (Avram et al., 2024, p.1).

Figure 1

Behavior Setting Theory



From “The Concept of Behavioral Setting and its Impact on Improving Environmental Quality Neighborhood Parks,” by Keshmiri, H., & Nikounam Nezami, H., 2023, *International Journal of Architectural Engineering & Urban Planning*, 33(2), 1-16.

Since its inception, researchers have expanded upon BST and its approach. Avram et al. (2024), found three prevalent adaptations in the research and practice of BST including the Manning Theory which is the study of the optimal staffing levels of behavior setting, Behavior Mapping which is the use of scaled drawings of spaces indicating where predicted behaviors will take place within the environment, and Activity Setting Theory which is the adaption of BST for community psychology (2024). Although these theories build upon BST in general, they do not

utilize the K-21 method but expanded upon the theoretical framework. Reflecting on BST, some scholars feel that the method contributed more to ecological psychology research than to theory (Avram et al., 2024; Lucas, 2024). In this study, BST is being utilized as a theoretical frame but perhaps in future studies, BST methods— in particular K-21 can be applied to SDL in informal learning spaces in academic libraries.

One aspect of BST is the observed social interactions that are at play in the physical environment and how they impact behaviors. With the introduction of the virtual world and technology like handheld devices, cell phones, and laptops, individuals can exist in both a virtual and physical world at the same time. With many people constantly on a device in social settings, behaviors reflect both the virtual and physical world (McGann, 2024). Through the lens of BST, this research can examine how the distinct physical environment that allows and even encourages the use of technology to support learning, impacts SDL.

Self-Determination Theory

Similar to BST, Self-Determination Theory (SDT), examines behaviors through the lens of motivation. Prior to the development of SDT, psychological theories during the first part of the 20th century focused on personal drive as the key aspect of motivation. Theorists attempted to apply drive to all aspects of human behavior, but it fell short of explaining motivation across the entirety of the human experience. By the mid-20th century, “...it became increasingly clear that drive theories were not adequate for dealing with many of the observed complexities of behavior” (Deci & Ryan, 1985, p.4). Consequently, theories around intrinsic motivation began to form as a companion to drive motivation and “self-determination or freedom from control is necessary for intrinsic motivation to be operative” (Deci & Ryan, 1985, p.5).

During the second half of the 20th century, the nature of self-determination was explored leading to Deci & Ryan developing SDT in the 1980s. According to SDT, three psychological factors impact motivation: autonomy, competence, and social relatedness (1985). The extent to which these three factors are supported and encouraged in an individual's development will affect their choices and outcomes.

A sense of autonomy will allow individuals to adhere to their values and interests and pursue their own goals. Humans seek a sense of autonomy from birth, and it continues throughout their early developmental years. It has a significant impact on achievement within the learning environment—both formal and informal. “...the more that students’ motivation is autonomous, the better their academic performance, the longer they persist, the better they learn, the greater their satisfaction is, and the more positive their emotions at school are” (Guay, 2022, p.87). A mature sense of autonomy allows the self-directed learner to select the most beneficial space in the library that will support their academic performance. Through the regular use of the library, learners can distinguish the physical, social, and psychological spaces that are supportive and non-supportive of their learning goals. This research will help to uncover how learners use their sense of autonomy to identify, explore, use, and adapt in the space so it meets their learning needs and how the composition of the space allows for the autonomous self-directed learner to be successful.

Competence offers a level of confidence that will allow individuals to feel that they can effectively interact with their environment and successfully pursue additional knowledge (Schweder et al., 2025; Tian & Park, 2022). In formal learning spaces, instructors structure the environment, establish outcomes, and guide students to their learning goals. As competence increases for the student, the instructor and student negotiate the level of support and mediation

needed in the learning process. When learning moves into an informal learning space without the guidance of an instructor, students need to feel they are competent enough to set their priorities on their own. The findings of this study will reveal the role competence plays in the self-directed learner's ability to successfully manage and achieve their goals.

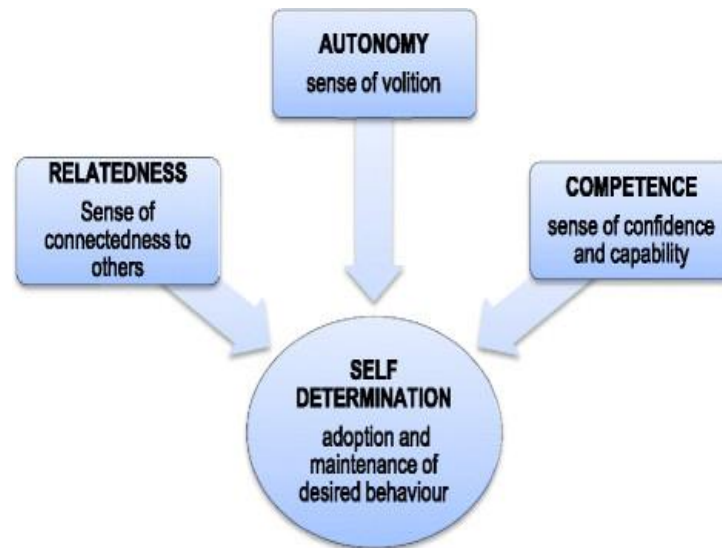
Social Relatedness refers to the fundamental need to feel connected and supported by others. “Cultures (and cultural subgroups such as families, clubs, and work groups) provide tools, practices, and values that can allow people to satisfy basic needs, to feel volition and choice as well as cohesion and relatedness” (Deci & Ryan, 2000, p. 247). When students pursue a university degree, they join a cultural subgroup that offers support and connection as they work toward their goals. The relatedness is psychological – students meeting educational milestones together, emotional – managing the highs and lows of the academic journey, and physical – conducting experiments in a lab or playing sports in a gym. This research on SDL will uncover the effect of social relatedness on informal learning spaces and how it influences student success.

All three of these psychological aspects impact an individual's level of motivation. Individuals can be motivated by external and internal factors. External factors may be obeying the law, getting a good grade on a test to meet parents' expectations, or finishing a project at work by a deadline. Internal factors that impact motivation may be a desire to learn, be loved, or be charitable because it aligns with an individual's values and personal goals. However, “[Individuals]... often experience not just one, but several forms of motivation simultaneously and to varying degrees” (Schweder et al., 2025, p.2). Motivation exists on a continuum and fluctuates as individuals develop cognitively and psychologically throughout their lives. “According to SDT the quality of motivation differs depending on the degree of realized self-

determination” (Schweder et al., 2025, p.2). To be successful as a self-directed learner, a high level of motivation must be sustained.

Figure 2.

Self-Determination Theory



From “A Qualitative Study of the Experiences of Care and Motivation for Effective Self-Management Among Diabetic and Hypertensive Patients Attending Public Sector Primary Health Care Services in South Africa,” by Murphy, K., Chuma, T., Mathews, C., Steyn, K., & Levitt, N., 2015, *BMC Health Services Research*, 15, 1-9.

Conceptual Framework

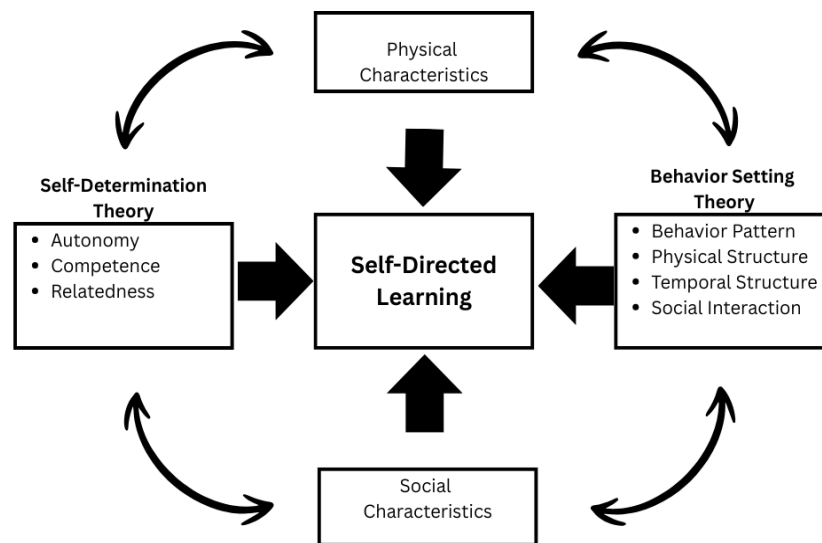
The conceptual framework guiding this qualitative study will help to identify what physical and social characteristics impact SDL in informal learning spaces. This study utilizes SDT and BST to categorize the psychological, behavioral, and physical experiences of part-time and full-time undergraduate and graduate students in an academic library. The diagram that

follows illustrates how the characteristics of SDT and BST interact with the physical and social characteristics of informal learning spaces and impact SDL.

The diagram below demonstrates how the characteristics of SDT: *Autonomy, Competence, and Relatedness* and BST: *Behavior Pattern, Physical Structure, Temporal Structure, and Social Interaction* interact with the Physical and Social Characteristics of informal learning spaces and impact SDL.

Figure 3

Conceptual Framework of the Study



Purpose Statement

The purpose of this qualitative study using a descriptive phenomenological approach is to explore how the physical and social characteristics of informal learning spaces in academic libraries influence SDL experiences for university students in Northeast Pennsylvania (NEPA). At this stage in the research, the physical and social characteristics of informal learning spaces

will be generally defined as flexible, comfortable, and technology-equipped physical spaces that allow students to engage in social learning activities such as group discussions, individual study, and collaborative projects.

Central Question

How do the physical and social characteristics of informal learning spaces in academic libraries influence students' self-directed learning experiences at a university in NEPA?

Sub Questions

- How do students describe their experiences using flexible and comfortable spaces in the academic library for SDL?
- How do students modify or personalize informal learning spaces to meet their learning needs?
- How do students describe their process of setting learning goals, selecting resources, and evaluating their progress in informal learning?
- What challenges do students face when using informal learning spaces for SDL, and how do they navigate these challenges?

How do students perceive the overall impact of informal learning spaces on their academic success and personal growth?

Definitions

Academic Libraries - are defined in the literature as a “center point for the development and organization of information resources for the present and future students, faculty, and staff in the academic community” (Aslam, 2022, p. 55). In this study, academic libraries are defined as an organized collection of resources (books, journals, e-journals, multimedia resources, archives,

databases) that are located on a university campus and are also available virtually. Librarians are located in the academic library to support student and faculty research needs.

Formal Learning Spaces - are defined in this study as physical spaces where both student and teacher are present and learning activities take place supervised by a teacher (Leijon et al., 2024). In this study, Formal Learning Spaces are defined as classrooms, studios, performance spaces or labs on a university campus that support organized teaching and learning.

Informal Learning - is defined in the literature as learning initiated and controlled by the learner who sets their own goals and typically does not take place in a formal learning space (Sackey et al., 2015). Informal Learning is defined in this study as learning that is self-directed and takes place in informal learning spaces in an academic library. It happens outside of a formal learning space like a classroom, studio, performance space, or lab and supports the formal instruction that happens inside the classroom that leads to a degree.

Informal Learning Spaces- are defined in the literature as spaces outside the formal classroom where individual or group learning is taking place (Wu et al., 2021). Informal learning spaces are defined in this study as spaces that are self-selected by the student and provide for private or collaborative learning experiences in an inviting atmosphere that are in proximity to formal learning spaces.

Learning Commons - are defined in the literature as space that provides library resources, technology, and collaborative learning spaces and may also include services provided by diverse academic and information technology units (Blummer & Kenton, 2017). In this study, the learning commons will be defined as an academic space that provides library and professional resources and technology in a comfortable, inviting, flexible space.

Physical Characteristics - are defined in the literature as the layout, color, and furnishings of a space that suggest how it is used (Eyal & Gil, 2020). Physical Characteristics are defined in this study as flexible, comfortable, accessible, adaptable, and technology-equipped physical spaces.

Self-Directed Learning - is defined in the literature as “...a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies and evaluating learning outcomes” (Knowles, 1975, p. 18). In this study, self-directed learning is defined as learning that is planned, managed, and evaluated by the student. They set goals, choose resources, and assess their progress.

Social Characteristics - are defined in the literature as aspects of a space that allow a degree of interaction, privacy, and autonomy for a learner (Beckers et al., 2016). Social Characteristics are defined in this study as spaces that allow for collaborations, group discussions, and knowledge sharing.

University Students - are defined in the literature as individuals who are enrolled in a higher education institution and pursuing a degree (Renn & Reason, 2023). Students are defined in this study as those who are enrolled either full-time or part-time in a degree-granting program at a private institution in NEPA.

Delimitations

This study is delimited to one co-educational private university in Pennsylvania, to a qualitative study, to approximately twelve to twenty undergraduate and graduate, full-time and part-time students, to those who use the library for academic work and study, to those who are fluent English language speakers, to the interview protocol, to four weeks, and to the meeting time availability of the participant and researcher.

Assumptions

It is assumed that participants in this study will understand the questions posed by the interviewer and answer as honestly as possible.

Significance

Although SDL has been explored in the literature, there has not been an agreed upon approach within the discipline of library and information science of how best to gather reliable and actionable data for analysis when it is done in informal learning spaces in the academic library. Having the ability to gather data on SDL in informal learning spaces in a way that is valid and reliable, and at the same time adaptable to specific library characteristics, will allow academic library leadership and librarians to incorporate this approach into their assessment work and develop strategies to improve services. Changes can be implemented that help meet the needs of the users and support the pedagogical approaches of the teaching faculty. It will also allow them to demonstrate an additional aspect of their value to the university community. Knight (2017) believes that academic librarians need to proactively and methodically manage change within their organization. Systematic assessment is one way to approach managing and advocating for change. This study could provide an approach to qualitative research that supports the assessment efforts of the academic library community.

Chapter Two

Literature Review

Introduction

The shifting landscape of higher education has put increased demands on academic programs and services on campus to demonstrate impact (Association of College and Research Libraries, 2017). Once considered the heart of the campus, academic libraries are being asked to show their value by illustrating how they innovate to meet the needs of users and contribute to student retention and success (Appleton, 2021; Cox, 2023; O'Donnell & Anderson, 2022; Onwusu-Ansah & Korkuvi, 2023; Oyedokun, 2024). This became more pronounced during the COVID-19 pandemic (Onwusu-Ansah & Korkuvi, 2023). It will continue as the value of higher education is questioned, the cost increases, and the number of college-aged students decreases over the next decade (Fry et al., 2024). Historically, libraries have demonstrated their impact by providing statistics on activities that have taken place within the library building and the virtual space. These counts include the number of book checkouts, downloads of articles, instruction sessions, space usage, and reference consultations. Besides reporting these numbers internally, academic libraries are required to report these numbers to the National Center for Education Statistics and state accreditation agencies, and if they are a member of a national consortium like the Association of Research Libraries, they report to the annual survey of member libraries. Counting usage or interactions has been ingrained in the work of librarianship for decades and is viewed as an aspect of meeting users' needs, but it does not demonstrate quality and impact of services.

Although usage numbers can provide some insight into how the library is being utilized, especially with longitudinal data, it does not provide the information needed to assess if the

library is supporting students' learning. It also offers little insight into how librarians can incorporate new activities that support academic outcomes into their work (Aslan, 2022; Oyedokun, 2024). In 2017, the Association of College and Research Libraries (ACRL) issued the report, *Academic Library Impact: Improving Practice and Essential Areas to Research*. The report provided an "action-oriented" research agenda that noted, "The goal is to investigate how libraries can increase student learning and success while communicating their value to higher education stakeholders" (p. 1). The report identified six priority areas of research to inform practice:

1. Communicate the library's contributions
2. Match library assessment to the institution's mission
3. Include library data in institutional data collection
4. Quantify the library's impact on student success
5. Enhance teaching and learning
6. Collaborate with educational stakeholders (Association of College and Research Libraries, 2017, p.1)

Informed by research that has developed since this call to action from ACRL, assessment has become an approach in the field for gaining a deeper understanding of the role of libraries in student success (Zaugg et al., 2021; Zaugg, 2022). Because there are several different macros, micros, physical, and virtual environments and services offered in academic libraries, several research focuses and approaches have been explored. One of these approaches that has appeared in the literature is understanding how the physical and social environment of the library contributes to student success.

Learning Commons

Starting at the macro level, the learning commons has become a part of the academic library on many campuses, sometimes occupying the entire space or sharing it with other student-facing offices. Generally, the library is the core of the learning commons' function and purpose. In libraries, learning commons spaces tend to be seen as an evolution and extension of the information commons model, which reframes spaces originally intended to primarily support students' information-seeking activities as locations for students to participate in information processes and produce knowledge in a "vibrant collaborative, and technology infused space" (Turner et al., 2013, p.229).

Looking at published research between 2001 to 2017, Blummer and Kenton (2017) conducted a study of learning commons research. After a qualitative analysis of 103 articles, they found five overarching themes: planning the learning commons, assessing the learning commons, benefiting from the learning commons, collaborating in the learning commons, and staffing the learning commons. More recently, Dery et al. (2025) reviewed 90 articles published between 2017 and 2022 and found that published learning commons research "predominantly points toward the themes of the library as space, digital scholarship, technology, innovation, the library as place, the evolving roles of librarians, and the user experience of the learning communities" (Dery et al., 2025, p.20).

Since the development of learning commons, research on the impact of the library's space on teaching and learning has appeared in the literature. Starting in the early 2000s, when institutions started investing in learning commons, researchers utilized quantitative, qualitative, and mixed-methods approaches to understand how these spaces impacted outcomes.

Looking at multiple spaces in the library (collection, special use, discussion, silent zone, audio/video, and staff work spaces), Shoaib et al. (2025) conducted a survey at a large public university and analyzed the results using an attitudinal scale of (dis)agreement. They found that overall, there was a positive correlation between academic engagement and the use of the academic library spaces. Space in libraries has also been studied through the use of user satisfaction surveys. Hou (2025) surveyed users in four distinct areas of the university library, two used for quiet study and two used for collaborative discussion. She assessed how the physical characteristics (seating plan, layout, seating ergonomics, and openness) affected user satisfaction in different areas of the library. Hou (2025) found that, “the specific areas of the library where users spent their time significantly influences users’ satisfaction” (p. 571).

Informal Learning Spaces

A feature of learning commons that has also appeared in the research literature is informal learning spaces. These spaces are areas outside the formal classroom where individual or group learning takes place (Wu et al., 2021). They are self-selected by the students and provide private or collaborative learning experiences in an inviting atmosphere that are in proximity to formal learning spaces. Although featured regularly in the literature since their inception, studies have not fully captured why students choose informal learning spaces in the academic library when there are alternatives on and off campus. It has also failed to capture if the current structure of informal learning spaces in academic libraries is meeting the needs of the diverse population of students that inhabit universities’ campuses.

What these studies have not yet accomplished is a contextualized, comparative understanding of the social and quiet environments of the academic library within the broader ILS [informal learning spaces] ecosystem, particularly one that considers

students' needs and space choices in an abundant and increasingly homogenous learning space landscape (DeFrain et. al., 2022, p.48).

Over a decade ago, Harrop and Turpin (2013) conducted a mixed-methods study of Sheffield Hallam University to try and understand what makes higher education informal learning spaces successful. Prior to their research, they observed in the literature that there were three frameworks for understanding informal learning spaces: learning theory, placemaking, and architecture. Recognizing a need to understand how these three frames collectively impact the success of informal learning spaces, they set out:

- To determine learners' behaviors and preferences in relation to where, what, when and how they use informal learning spaces
- To determine learners' behaviors, attitudes and preferences in relation to why they select and use informal learning spaces
- To enable evidence-based decision making in the redevelopment of informal learning spaces at Sheffield Hallam University
- To inform the design of informal learning spaces internally and at other higher education institutions (Harrop & Turpin, 2013, p. 59)

The results of the study were a typology of nine attributes (destination, identity, conversations, community, retreat, timely, human factors, resources, refreshment) of informal learning spaces that integrated aspects of the three frames and could be used when evaluating or developing informal learning spaces on a university campus. When utilizing the typology, the researchers assert, "...that substantive focus should be placed on constructing and nurturing the appropriate ethos alluded to by learners...as well as considering the physical object" (Harrop & Turpin, 2013, p.73). Because of the design of the study, the authors identified a gap in understanding

space selection by the student and if “certain behaviors, attitudes, and preferences typically go hand in hand” (p.75).

Cunningham and Walton (2016) conducted a case study of informal learning spaces in the United Kingdom’s Loughborough University library and additional locations across campus. They were interested in finding out what activities the students were undertaking while using informal learning spaces, why they chose the informal learning spaces, how technology was used in the space, and how they could improve the space to support students' needs. After 265 semi-structured interviews, they found that the most important informal learning provider, especially for first- and third-year students, was the library. Students would go out of their way to access an informal learning space within the library compared to other places on campus. Quiet spaces in the learning commons were an overwhelming factor in choosing the library spaces. The authors suggested frequent use by first year students was due to their lack of awareness of other informal learning spaces anywhere on campus. For third year, which is the last year in the UK, the need for quiet spaces for preparing for exams, which they knew were available at the library.

Yau et al. (2021) also found that the informal learning spaces within the library, which they referred to as the Comprehensive Informal Learning Spaces, were the most frequently visited type of informal learning space at Hong Kong Polytechnic University. The researchers used a mixed-methods approach to classify the type of informal learning spaces that existed on the campus. They identified five types:

1. Indoor (quiet) Informal Learning Spaces
2. Indoor (talking allowed) Informal Learning Spaces
3. Outdoor Informal Learning Spaces

4. Indoor (sofa) Informal Learning Spaces -This was further explained as not having tables. Just soft seating
5. Comprehensive Informal Learning Spaces – This was the library space (Yau et al., 2021, p.10)

The goal of their research was to understand usage patterns and provide recommendations for capacity building for their institution. The results of the interviews and focus groups were used to develop a quantitative survey. The informal learning space in the library was the only one out of all 39 informal learning spaces identified that could meet the students' multiple needs at one place. 93.8% of the respondents had visited an informal learning space in the library, and 57.1% had spent an hour or more there. This study revealed that students preferred the informal learning spaces in the library when they have academic goals in mind, and this should be considered when developing informal learning spaces across campuses. The data from this study has practical applications for the design and assessment of informal learning spaces in academic libraries.

DeFrain et al. (2022) also found that informal learning spaces in the library held prominence over other informal learning spaces throughout the University of Nebraska-Lincoln (UNL) campus. Using a mixed-methods approach, the researchers wanted to find out the “unique value” of informal learning spaces in the library compared to other locations on campus. After seeing the success of the informal learning spaces in the learning commons, UNL incorporated informal learning spaces into two new buildings, the College of Business, and the College of Nursing. The trend of mimicking the learning commons informal learning spaces in new construction is not unique to UNL. DeFrain et al. (2022), noted,

These new ILS [informal learning spaces] are overtly derivative of the modern socialness at the root of the learning commons model, thus raising questions of how students navigate this increasingly homogenous learning space ecosystem, and how libraries can best support students' learning space needs (p. 45).

Studying students' user satisfaction and productivity at five separate locations at the large public university, DeFrain et al. found that students utilized different informal learning spaces across the campus but for intense SDL, the informal learning spaces in the library were recognized as the ideal location. "This voluntary selection of place exhibits a positive metacognitive awareness in which students recognize the relationship between their learning environment and their ability to learn" (DeFrain et al., 2022, p. 58). Cox (2018) also recognized that learners in informal learning spaces identify and actively construct "learning atmospheres" through the physical and social environments in the library and that there is an "idea of libraryness" that supports the learning process (p. 1088).

Informal Learning

One of the foundational definitions within the literature of informal learning originated with Coombs & Ahmed's 1974 study for the World Bank's International Council for Educational Development, *Attacking rural poverty; How nonformal education can help*. Coombs & Ahmed defined informal learning as:

The lifelong process by which every person acquires and accumulates knowledge, skills, attitudes and insights from daily experiences and exposure to the environment.

Generally, informal learning is unorganized and often unsystematic; yet it accounts for the great bulk of a person's total lifetime learning-including that of even a highly 'schooled' person (p. 8).

The purpose of the World Bank study was to understand the learning needs for those that had limited access to formal learning as part of an institutionalized education system, and how nonformal learning, which Coombs & Ahmen defined as “any organized, systematic, educational activity carried on outside the framework of the formal system...(1974, p.8)” could help people in rural areas gain the knowledge needed for sustainable employment. The authors recognized that all three types of learning overlap in the process of gaining knowledge.

Investigating informal learning in higher education, Brzozowska-Brywczyńska, & Nymś-Górna (2024) found that there is no one agreed upon definition of informal learning in the literature although there have been two approaches frequently discussed in the research. The first approach is the study of the practical application and effectiveness of informal learning. The second approach is the examination of the structures and power dynamics of how and what is taught in the education system or what is referred to as critical pedagogy (Brzozowska-Brywczyńska, & Nymś-Górna, 2024).

Considering the practical approach to the study of informal learning, a body of work has emerged from several disciplines including education, psychology, and vocational studies (Brzozowska-Brywczyńska, & Nymś-Górna, 2024). In the latter part of the last century, Marsick and Watkins (1990) investigated the process of informal and incidental learning in the fields of adult education, organizational development, and workforce training. They defined informal and incidental learning as “learning outside of formally structured, institutionally sponsored, classroom-based activities” (Marsick & Watkins, 1990, p. 6). Forms of informal learning include SDL, networking, coaching, mentoring, performance planning, and trial and error (p.7). In these examples, the learner intentionally pursues learning. Forms of incidental learning include learning from mistakes, assumptions, beliefs, attributions, internalized meaning constructions

and the actions of others, and the hidden curriculum in formal learning (p.7). Incidental learning is not intentional but rather a byproduct of informal and formal learning. Incidental and informal learning were investigated by the authors within the work environment and contrasted with formal learning.

Formal learning opportunities heighten awareness, but such learning is divorced from real life action. Informal learning benefits from being linked to meaningful job activities, but it requires greater attention to making the most of the learning opportunity, something that might involve planning and almost certainly involves some conscious attention, reflection, and direction (Marsick, et al., 2008, p. 810).

The authors developed a framework that demonstrated how the three types of learning worked together to build new knowledge. “In this model, people use reflection to become aware of the problematic aspects of the experience, to probe these features, and to learn new ways to understand and address the challenges they encounter” (Marsick, et al., 2008, p. 819).

Two features of Marsick and Watkins’s model can be seen in Table 1. They are factors called “Enhancers” and “Delimiters” that impact the learner’s ability to engage in the learning experience.

Table 1*Informal and Incidental Learning*

Enhancers	Delimiters
Creativity -different ways of seeing problems and generating solutions.	Framing - how individuals select the problem to which they attend and relate them to the context as they explore interpretations.
Proactivity - process of actively seeking out learning in everyday experiences in various ways, e.g. meeting routinely with colleagues to reflect on experiences or keeping a journal.	Capacity - ability to project learning over a long time period and over many separate learning outcomes.
Critical reflectivity - taking the time to look deeply at one's practice to identify values, assumptions, and beliefs that govern actions.	

From *Informal and Incidental Learning in the Workplace*. Routledge, by Marsick, V. J., & Watkins, K. E., 1990, p.7.

Marsick's and Watkins' model was explored on the individual, group or organizational, and professional level. Recommendations were made on how to cultivate an environment at each level that would support incidental and informal learning. Although Marsick and Watkins' research was foundational to the study of informal learning, they reconsidered the framework as learning theory evolved. After an attempt to incorporate new research into the model, Marsick, et al. (2008) concluded that a model might not be the best way to represent informal learning.

The basic problem solving and learning cycle depicted in the earlier model through which most people move is still relevant, but it is often a loose framework within which many learners interact in the pursuit of a mix of individual and organizationally determined goals (Marsick, et al., 2008, p. 839).

Although the authors moved away from the model for a broader interpretation, their contributions are still foundational to the study of informal learning (Papanagnou et al., 2022; Barefield & Nicolaides, 2023).

Schugurensky's (2000) approach to understanding informal learning was to build a taxonomy. This framework could be applied to informal learning to understand how aspects of it fit together and build new knowledge. To distinguish the features of informal learning in his taxonomy, the author first offered definitions of formal and non-formal learning. Formal learning takes place across the institutional system which begins with preschool and continues until graduate school. Formal education is highly institutionalized, compulsory, and each level of the curriculum builds upon the last. At the end of formal learning, the learner is awarded a degree or certificate (p.1). Aligning with Coombs & Ahmed's definition of nonformal learning, Schugurensky defined non-formal learning as education outside of the formal system that is voluntary and does not necessarily lead to a certificate or recognition. Casting a broader scope than Coombs & Ahmed's definition, Schugurensky provides examples of non-formal learning as workshops, driving lessons, second language programs, and yoga or cooking classes. It is important to note that Schugurensky recognized that informal learning can take place within the structure of an academic institution, like an academic library, but not as part of the formal curriculum of the institution.

Schugurensky's taxonomy consisted of two categories and three forms of informal learning which are presented in Table 2.

Table 2*Three Forms of Informal Learning*

Forms	Intentionality	Awareness (at the time of learning experience)
Self-directed	yes	yes
Incidental	no	yes
Socialization	no	no

From *The Forms of Informal Learning: Towards a Conceptualization of the Field* (WALL Working Paper No.19; p. 9). by Schugurensky, 2000, Ontario Institute for Studies in Education of the University of Toronto, p. 3.

Where Marsick and Watkins investigated incidental learning as a subset of informal learning, Schugurensky identified it as a distinct form of informal learning. Both contend that the learner is unaware of incidental learning but at some point, the learner becomes aware of the experience. Schugurensky defines socialization (tacit learning) as the “internalization of values, attitudes, behaviors” (p.4), Marsick and Watkins incorporated tacit or socialization into incidental learning and emphasized how it could impact the learning experience. “The process of surfacing tacit learning is one of reflecting first on what they are, and then on whether or not they lead to desirable results in the here-and-now” (Marsick and Watkins, 1990, p.221).

Building on the research around informal learning by Schugurensky, Marsick, and Watkins, Bennett (2012) extended Schugurensky’s taxonomy to include an additional form of learning called integrative knowledge which you can see in Table 3. She also reconceptualized it as a model which, “...needs to take into account implicit processing and insight generated from intuition” (Bennett 2012, p. 27). Bennett renamed socialization in Schugurensky’s model to tacit

learning and added integrative learning as a fourth category which she defines as “a learning process that combines intentional nonconscious processing of tacit knowledge with conscious access to learning products and mental images” (Bennett 2012, p. 27).

Table 3

Four-Part Informal Learning Model

Self-directed	Incidental	Integrative	Tacit
Conscious	Conscious	Nonconscious	Nonconscious
Intentional	Unintentional	Intentional	Unintentional

From "*A Four-Part Model of Informal Learning: Extending Schugurensky's Conceptual Model*," by Bennett, Elizabeth E., 2012, Adult Education Research Conference, p.27.

Because adults come to a new experience with a significant level of existing knowledge, integrative learning allows them to learn new things by comparing or matching to what they already know. There is value in building in some time for the integrative processing to happen while acquiring new knowledge. Bennett suggests additional research should be done using a qualitative approach to study “...how and when scientists or innovators find solutions to complex problems or how they wrestle with theoretically dense material” (Bennett 2012, p. 30).

The research on the characteristics and the process of informal learning laid the foundation for additional studies across an array of disciplines and included investigations in learner autonomy (Cerasoli, et al., 2018), space (Harrop & Turpin, 2013, Wu et al., 2021), technology (Park et al., 2011), lifelong learning (Peno,2024), and outcomes (Peeters et al., 2014).

Self-Directed Learning

SDL has been recognized in the literature as a form of informal learning. College and university students engage in SDL when outside of the formal learning environment.

Understanding how to cultivate students' SDL skills was explored by Knowles in the 1970s. He recognized the need for lifelong learning skills because of the rapid change in society and viewed education as not just a process of transferring information from teacher to learner but for developing the skills of inquiry (Knowles, 1975).

The author defined SDL in his 1975 book *Self-directed learning: A guide for learners and teachers*:

In the broadest meaning, self-directed learning describes a process by which individuals take the initiative, with or without the assistance of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes (p. 18).

Knowles referred to SDL as andragogical. This method of learning is led by the learner who identifies a problem and overcomes it. This is compared to pedagogical learning, which is teacher led and is the process of the teacher transferring knowledge to the learner. (Knowles, 1975; Loeng, 2020). “From an andragogical point of view, the learner moves toward increasing self-directedness, and the teacher’s role is to encourage this increasing self-directedness. The learner’s experiences become an increasing source for learning” (Loeng, 2020, p.3). Teachers are the facilitators that help students transition from directed learning to SDL (Chukwunemerem, 2023; Morris, 2024). “...self-directed learning assumes that the learner’s experiences become an increasingly rich resource for learning which should be exploited along with the resources of

experts” (Knowles, 1975, p. 20). As the learner becomes more independent, Knowles found, their self-esteem increases, and they become more confident. Although Knowles' work is foundational to the study of SDL, many found it devoid of the social, political, and economic factors that influence the learners' disposition (Brookfield, 1985).

Around the same time that Knowles published his work on the process of becoming a self-directed learner, Tough (1978) was examining data on the number of “learning projects” adults participate in throughout their lives. He identified learning projects as anything from raising a child, learning a musical instrument, taking a class, to planning a new program at work. 80% of learning projects completed by adult learners were initiated, facilitated, planned, and directed by the learner rather than an expert instructor and adults complete these projects throughout their lifetime. He described learning as an iceberg with formal learning just the part of the iceberg above the water.

Understanding the characteristics of self-directed learners and the role of personal responsibility was a key focus of Brockett & Hiemstra's (1991) conceptual framework of SDL. In their Personal Responsibility Orientation model, they distinguished SDL in two ways, as an instructional process that was facilitated by the environment and the teacher, and a learner characteristic. They saw it as a continuum. Identifying needs, setting goals, and recognizing when external support is needed are all personal characteristics that support SDL and are the responsibility of the learner. Grow (1991) recognized that there are various stages of SDL that the learner goes through and the instructor supports them throughout each stage. The quality and the ability of the teacher impacts the progression through the stages. He proposed a variety of techniques to support learners through each stage. Candy (1991) also emphasized learners' personal characteristics and responsibility in SDL and divided it into four dimensions: personal

autonomy, self-management in learning, learner control, and autodidaxy (learning outside formal settings). Exploring the internal regulation of the self-directed learner, Garrison's (1997) model had three dimensions: self-management, self-monitoring, and lastly, motivation which he believed played a significant role in learners' ability to achieve their goals. According to Garrison, there are two dimensions of motivation, "entering motivation" which is the decision to participate in the learning activity and "task motivation" which is the decision to continue the activity until the learning goals are achieved.. Garrison took a collaborative constructivist perspective of SDL which, "...has the individual taking responsibility for constructing meaning while including the participation of others in confirming worthwhile knowledge" (1997, p.19).

For the past twenty years, practitioners have integrated SDL theory and models into the development and planning of instruction (Caffarella, 2013; Shi, 2017) and it has had influence on virtual and online learning environments (Mentz, et al., 2019; Bosch & Pool, 2019; Olivier, 2020; Oswald, 2003; Oswald, 2004). Understanding SDL from the learner's point of view has been a consistent theme in the literature. The research on SDL has informed practitioners work in space design and planning and user experience in higher education informal learning spaces across campuses and in academic libraries (Abeyrathne & Ekanayake, 2019; Becker et al., 2016; Cunningham & Walton, 2016; Harrop & Turpin, 2013; Jamieson, 2016)

Research in Practice

As a service profession, librarians are oriented to answer questions and solve problems, and this is evident in the research and scholarship in the field of library and information science. Much of the research produced is applied and focuses on improving services to our users (Connaway & Radford, 2021). This inclination can be found in the events following the foundational report for the Association of College and Research Libraries (ACRL) prepared by

Megan Oakleaf in 2010, *The Value of Academic Libraries: A Comprehensive Research Review and Report*. ACRL, the professional organization for academic librarians, produced the *Assessment in Action (AiA): Libraries and Student Success* series of workshops after being awarded a grant by the Institute of Museum and Library Services (IMLS) in 2012. The initial cohort included 300 higher education institutions of varying types. Each institution had a team that included a librarian as well as other higher education collaborators from across campus.

There were three goals of the AiA program:

1. Develop the professional competencies of librarians to document and communicate the value of their academic libraries primarily in relation to their institution's goals for student learning and success
2. Build and strengthen collaborative relationships with higher education stakeholders around the issue of library value
3. Contribute to higher education assessment work by creating approaches, strategies, and practices that document the contribution of academic libraries to the overall goals and missions of their institution (American Library Association, n.d.)

After three successful years of the AiA program, ACRL transitioned the program to a professional development workshop for library professionals. ACRL's focus on assessment led to an increase in assessment related reports, articles, books, and conference presentations within the professional literature.

During the same time that ACRL was supporting assessment efforts and implementing Oakleaf's charge, the Association of Research Libraries (ARL), which focuses on large research university libraries started the biennial Library Assessment Conference co-sponsored by the University of Washington Libraries. The goal of the conference was to "build and further a

vibrant library assessment community by bringing together interested practitioners and researchers who have responsibility or interest in the broad field of library assessment” (Association of Research Libraries, n.d.). In 2000, the International Conference on Performance Measurement in Libraries (UK based) collaborated with ARL to offer its conference in alternating years. These two venues have become the major conferences for sharing assessment research in the field. Besides the conferences, there are several journals that publish applied research including assessment: *Performance Measurement and Metrics*, *Evidence Based Library and Information Practice*, *The Journal of Academic Librarianship*, *College & Research Libraries* (C&RL), and *Library Trends* to name a few.

Summary

Since the early 2000s, qualitative, quantitative, and mixed-methods research in library and information science have been applied to academic library assessment work to examine several aspects of the academic library enterprise. Assessment topics include student success, learning outcomes, user experience in the virtual space, equity and inclusion, artificial intelligence, library as place, and institutional impact. Whereas basic research investigates an unknown phenomenon and tests hypotheses, assessment can guide policy and practice to improve the library’s impact and performance (Fleming-May, & Mays, 2021).

With the inclusion of more sophisticated analytics tools, both qualitative and quantitative assessment practices can allow for triangulation of data and a more comprehensive understanding of the users’ experience (Badia, 2020). Although assessment research has been comprehensive in the literature, there are still questions around the best approach to understanding how the users are achieving their goals in informal learning spaces. The need to tailor assessment efforts to the unique characteristics of individual libraries has “limited the

standardization of methods to evaluate the value and impact of academic libraries” (Salisbury & Peasley, 2018). Even with the challenges to develop a standardized approach to library assessment, rich qualitative research in the field can provide reproducible frameworks that are grounded in the best practices in social science research.

Chapter Three

Methodology

Research Design

The purpose of this qualitative study, using a descriptive phenomenological approach, was to explore how the physical and social characteristics of informal learning spaces in academic libraries influence students' SDL experiences for undergraduate and graduate university students in Northeast Pennsylvania (NEPA). The physical and social characteristics of informal learning spaces were generally defined as flexible, comfortable, and technology-equipped physical spaces that allowed students to engage in social learning activities such as group discussions, individual study, and collaborative projects. SDL was defined as learning that was planned, managed, and evaluated by the student. They set goals, chose resources, and assessed their progress. This approach to the study allowed the researcher to look through the lens of university students and gather a thick description of their experiences. The research design, sample, instrumentation, procedure, and analysis of data are the primary components of this chapter.

Qualitative methods of inquiry are common and have a long history of application in library and information science research (Dabengwa & Ngulube, 2023; Gretter, 2024; Steinerova, 2017). Steinerova (2017) noted, "Information science qualitative methods are typically applied in human information behavior and information literacy studies. Theoretical sources of qualitative approaches are applied from psychological and social sciences" (p. 88). Human information seeking behavior within the literature investigates the phenomena surrounding how people engage information itself, in informal and formal settings. There are

many factors that influence how humans engage in this environment, and it is influenced by their lived experiences.

A deeper understanding of how participants' experiences influence their SDL in informal learning spaces allowed the researcher to identify distinct elements that emerged and those that were shared among the participants. Imposing variables, as in a quantitative research study, would have created assumptions that would not have allowed participants to tell their stories and for the essence to arise among the disparate experiences. Qualitative research is used when the goal is “to empower individuals to share their stories, hear their voices, and minimize the power relationships that often exist between a researcher and the participants in a study” (Creswell & Poth, 2018). The use of a qualitative approach for this study allowed the researcher to explore the phenomenon and gain a detailed understanding of university students' experiences of informal learning spaces. The participants in the study shared with the researcher both their subjective and objective experience of the phenomenon.

Descriptive phenomenology, when used in qualitative research, focuses on describing phenomena rather than explaining it and it is done through a systematic and replicable process for data collection and analysis (Giorgi, 1997). Adapted from Husserl's writings, phenomenological research is interested in describing the “lived experiences of persons” and that “these experiences are conscious ones” (Creswell & Poth, 2018, p.75). According to Husserl, “essence is what makes a phenomenon what it is, and without it, it would not be that phenomenon (Beck, 2021, p.3).

Grounded in Husserl's work, Giorgi developed the Descriptive Phenomenological Method as a scientific approach in his discipline of psychology.

[Husserl's] philosophical phenomenological method requires the assumption of the transcendental phenomenological reduction, the search for the essence of the phenomenon by means of the method of free imaginative variation, and, finally, a careful description of the essence so discovered. The scientific phenomenological method also partakes of description, essential determination, and the use of a phenomenological reduction but with differences with respect to each criterion. The scientific method is descriptive because its point of departure consists of concrete descriptions of experienced events from the perspective of everyday life by participants, and then the end result is a second-order description of the psychological essence or structure of the phenomenon by the scientific researcher. As just stated, essential determination of the phenomenon is sought by means of the method of free imaginative variation, but it is a psychological essence rather than a philosophical one (Giorgi, & Giorgi, 2003, p.251).

In descriptive phenomenology, the interviewer allows the participant to share a rich, detailed description of their lived experience of a phenomenon to understand the essence of it and not make interpretations. Although Husserl and Giorgi's methods are similar, the purpose of descriptive phenomenology is to use empirical research to describe a lived human experience while Husserl was focused on how a phenomenon appears to consciousness. Husserl believed that through philosophical reflection you could identify the universal experience of a phenomenon for human consciousness, while Giorgi used transformed descriptions from lived experience to identify the essential structure of a phenomenon.

Using Giorgi's methodological approach allowed for the physical, emotional, and cognitive, experience of SDL to be shared by the participant during the interview process, which was fundamental to understanding the structure of the phenomenon. The researcher identified the

characteristics of the phenomenon that both supported and hindered SDL. From these very specific descriptions, the researcher identified what Giorgi called the “invariant constituents” which are the essential nature of the phenomenon. These distinct but interrelated aspects of the experience are invariant in that if they were removed, the phenomenon would become a different experience. After identifying the invariant constituents, the structure of the experience can emerge.

Role of the Researcher

A common practice in qualitative phenomenology, the researcher engaged in bracketing, the process of setting aside what was known about the phenomenon prior to data collection to reduce confirmation bias (Chan, et al., 2013). “A central feature of phenomenological reduction, or the practice of bracketing as a method, is the prevention of attitudes, beliefs, assumptions, opinions, and so on distorting an experience into an experience of another kind” (Stolz, 2020, p.1080). Bracketing was vital to the study because the researcher’s personal experiences and beliefs about the importance of the library could have created a confirmation bias when interviewing or analyzing data. The researcher could have focused on the positive experiences the interviewee shares during the interview to confirm their position. Another factor that could have biased the study is that the researcher was employed as a librarian at the academic library where the study took place and was involved in the design of the current learning commons before moving into the administration. Furthermore, the researcher moved back into their discipline after serving in the administration for seven years and is currently employed as a librarian at an academic library in a different institution than where the study took place. They also hold a Master of Science in Library and Information Science.

Bracketing was supported by reflexive journaling. Once the researcher took on the right frame of mind, the structure and universal essence that the university students experience when using informal learning spaces for SDL was gathered and explored.

Participant Selection

The sample was developed through a purposive sampling method to identify students that were utilizing informal learning spaces in the library. Purposive sampling was used because it would, "...intentionally sample a group of people that can best inform the researcher about the research problem under examination" (Creswell & Poth, 2018, p.148). Specifically, criterion sampling was employed by including the criteria to participate in the study on the recruitment flyer and in the recruitment email to determine if the participant fits the population under investigation. The researcher also reviewed the criteria with the participants during the process of setting up the interview.

Inclusion Criteria

To be included in this study participants needed to be full-time or part-time undergraduate or graduate university students in a private university in Northeast Pennsylvania and between the ages of 18-23. They needed to be able to respond to the researchers' questions in English and to have utilized an informal learning space in the academic library in the last three months for academic work like studying or collaborating on a project.

Exclusion Criteria

After meeting the inclusion criteria, participants were excluded if they were unavailable for interviews at times that the researcher was available.

Sample Size

The researcher anticipated approximately fifteen to twenty participants in the study to gather sufficient depth and richness of the experience. In phenomenological research, “the sample is often small, allowing the researcher to focus on in-depth exploration of each participant’s unique experience (Taherdoost, 2026, p. 141). In descriptive phenomenology, at least three participants are needed according to Giorgi, because sample size is less important than the detailed descriptions and understanding the essential structure of the experience (2009).

Procedure

To conduct the study, the researcher requested an exempt review from the university’s Exempt Review Committee (ERC). For the study to have qualified for a federal exemption, it could not have posed more than a minimal risk to the participants and the identity of the subjects could not have been easily determined from the data collected. Included in the application to the ERC was the flyer that was hung throughout campus (Appendix A), the recruitment email that was sent to university students (see Appendix B), the Interview Guide (see Appendix C), a letter from a university designated official approving the researcher’s use of the university student listserv for recruiting purposes (see Appendix D), and the ERC Informed Consent Form (see Appendix E). The researcher was approved by the ERC and participants were recruited by hanging flyers throughout the academic library at the university and by sending emails from the student listserv during the spring of 2026.

Recruitment

The Office of Academic Affairs sent out emails over a month inviting students to participate in the study. According to the participant recruiting policy at the University, only three emails can be sent out over the course of a month. The flyer and the recruitment email had

the researcher's email so they could set up interviews. The first recruitment email went out Tuesday, January 20, 2026. On the day the recruitment email went out, the researcher was contacted by students interested in participating in the study. A second notice was sent out on Tuesday, February 10, 2026, and additional participants contacted the researcher. Besides the emails, one interviewee mentioned that they saw the recruitment flyer and were interested in participating in the study. No other emails were sent out because the two emails produced enough participants. The last interview took place on Friday, March 6, 2026.

When the researcher was contacted, they clarified that each potential participant was: (1) an undergraduate or graduate student at the university, (2) a full-time or part-time student, (3) had used an informal learning space in the university's academic library in the last three months, (4) was between the ages of 18-23, and (5) was willing to meet with the researcher via Zoom. A couple of students did not show up for the agreed upon times but because there was little issue with finding participants, the researcher reached out to others who showed interest.

Once a time for the interview had been established, a Zoom link and the Informed Consent Form were emailed to the participant and the researcher asked that they reviewed the form before the interview. Participants' contact email and interview date and time were stored on a Google Sheet in the researchers Google Drive.

Each interview was conducted in a single session via Zoom. It is not uncommon in social science studies for researchers to only conduct a single interview session with each participant to gather the appropriate amount of data (Morris, 2015). An hour was scheduled for each interview. All interviews were recorded and transcribed with verbal permission from the participants. Throughout the interview, the researcher collected notes alongside the recordings. Demographic

data was collected including the students' status (undergraduate or graduate) and enrollment (part-time or full-time).

There are several advantages and disadvantages to in-depth interviewing; both need to be considered when gathering data. Interviewing has been used for over one hundred years as a reliable and valid form of data collection in social science research and is "the most common qualitative research method" (Morris, 2015, p.1). Its flexibility allows it to be utilized in a variety of circumstances. For this study, some of the strengths of interviewing included the ability to gather rich personal data and the ability to understand an individual's context and motivation (Morris, 2015). The weaknesses for this study included the possibility that interviewees were presenting inaccurate information (Morris, 2015). The strengths and weaknesses needed to be considered by the researcher when they chose this method and throughout the study. They allowed the researcher to leverage the strengths of the protocol to obtain a rich data set while managing expectations of what data could be collected and the transferability of the study within the practice of librarianship. "Since phenomenology focuses on understanding the lived experiences of a small group of participants, the findings are not intended to be generalized to larger populations" (Taherdoost, 2026, p.147). However, the study will reinforce the value of unique perspectives when considering approaches to practice.

At the conclusion of the interview, the researcher thanked the participants and told them that the \$25 Amazon gift card would be sent to their school email address. Once the interview ended, the researcher downloaded the recording to their local hard drive and saved a copy of the transcript to their Google Drive. Each recording was reviewed by the researcher shortly after the interview to make sure the transcript matched the recording.

The data collected is only accessible by the principal researcher. It will be kept in a password protected location for three years and then will be destroyed.

Instrument

An interview guide was developed as a framework for the researcher to use during the interviewing process. The guide included an introduction, the content questions, and closing instructions (see Appendix C). Prior to submitting the interview questions to the ERC, the researcher shared the purpose of the study with the Library Director at the institution, and the guide was reviewed by a content expert. The researcher limited the guide to five main questions that included prompts or clarifying questions, if needed, to gather a thick description of the phenomenon.

Data Collection

The interviews began with the researcher reviewing the Informed Consent Form with the participants so they could verbally acknowledge that they understood the purpose of the study, procedures, risks and benefits, and confidentiality and if they had any questions. After questions were answered, if there were any, the researcher read the Statement of Consent on the Informed Consent Form to the participants to confirm their understanding of the study and their participation. The researcher thanked the subject for participating in the interview, inquired about their major at the university and interest in the research study. Pleasantries were exchanged with the participants to set the tone for the interview.

Utilizing the birthday of the participant, a code was developed with the initials and day of birth of the participant so the transcript and recording could be de-identified. The Interview Guide was then used to introduce the purpose of the study and to assure the participants that there were no right or wrong answers and to share their experiences in their own words.

Permission to record the interview was sought by the researcher and after the participant agreed, the recording commenced.

The interview consisted of five open-ended questions. They were grouped into three subject areas: space, learning, and challenges. The last question was not grouped with the others and asked the participant, “Is there anything else you would like to share about your experience using these types of spaces?” Throughout the interview process, the researcher asked the participants to elaborate or prompted them to say more about their experience to bring out as much of the subject's experience of the phenomenon as possible. Notes were taken by the researcher during each interview and were reviewed with the transcript. Although 60 minutes were scheduled for each interview, most of the meetings lasted approximately 20 minutes even with reframing the questions and encouraging dialogue. Even with employing different interview techniques, the data and the timeframe for the interviews remained the same. Since the time needed for the interviews and the responses were consistent, the researcher felt the data being collected was stable and reliable.

Reflexive journaling after each interview allowed the researcher to put aside perceptions and conjecture so as not to carry any personal bias about the phenomenon into each additional interview and potentially influence the participant. Meyer and Willis noted that, “engaging in reflexive journaling can facilitate understanding of unexpected research encounters and improve awareness of researcher positionality in order to render a more complete understanding of interview data, to contextualize findings, and support development of independent researchers” (Meyer & Willis, 2019, p. 578).

The researcher read and reread the transcripts in between each interview and took notes as needed. It became apparent at about the 12th interview that the data was becoming redundant

and very little new information was being revealed by the participants. The existing data had sufficient depth and richness. In descriptive phenomenology, researchers are encouraged to focus on the quality of the data rather than the number of participants. “What one seeks from a research interview in phenomenological research is as a complete description as possible of the experience that a participant has lived through” (Giorgio, 2009, p.122). The researcher continued to do two more interviews just to confirm that there was enough data to understand the structure of the experience for a total of 14 interviews.

Data Analysis

There are several approaches to qualitative data analysis, but the process can be described as a spiral. During the analysis process, the researcher circles around and around until the activity is satisfied and then moves further down the spiral. At the top level of the spiral, the researcher is concerned with the logistics of recording, organizing, and saving the data in a useful arrangement. Traveling down the spiral, the researcher reads through the data collected in its entirety, described by Bazeley (2013) as an “initial foray into the data” using “strategies to read, reflect, play and explore” (p.128). Further down, the researcher begins identifying meaning in the data collected. At that point in the spiral, the researcher moves to analyze the results and describe the essence of the phenomenon.

Giorgi’s Descriptive Phenomenology method was used as the method for the qualitative analysis. In preparation for analysis, the researcher reread the transcripts and watched the recordings to observe the participants’ body language and to identify any inflections or tone in the responses that add to the description of the experience. “A significant advantage of the interviews [are] their ability to capture non-verbal cues and emotional expressions, which can add further context to the responses” (Chand, 2025, p. 307). Since the interviews were done on

Zoom, observing body language was limited so reviewing the recordings allowed the researcher to pause, and rewatch portions of the recording when needed. Memos were written in the transcript document as the researcher reviewed the data. For example:

- Being able to look out across the library, out the window, it helps them focus.
- Choosing a location for the view so they could concentrate.
- Visual environment and how it is important to them for their success.

Besides notes alongside the transcripts, journaling was intertwined with the iterative review of the data to ensure that the researcher was not imposing bias or making assumptions as more data was collected.

Prior to the data analysis process, Giorgi (2012) explains that the researcher must:

...assume the attitude of the phenomenological reduction which means that she must resist from positing as existing whatever object or state of affairs is present to her. The researcher still considers what is given to her but she treats it as something that is present to her consciousness, and she refrains from saying that it actually is the way it presents itself to her. In addition, she refrains from bringing in non-given past knowledge to help account for whatever she is present to. She concentrates on the given as a phenomenon and everything that is said about the phenomenon is based upon what is given (Giorgi, 2012, p.5).

Assuming the phenomenological attitude, the researcher carefully read through all the transcripts exercising bracketing which kept the researcher's personal beliefs and experiences separate from the participants. "Through the fundamental methodology of 'bracketing' the researcher's own experiences, the researcher does not influence the participant's understanding

of the phenomenon” (Chan et. al., 2013, p.1). The goal was to solely rely on the participants' description of the experience. Giorgi describes the first step of his method:

The researcher first reads the whole description in order to get a sense of the whole. The phenomenological approach is holistic and so no further steps can be taken until the researcher has understanding of what the data are like (Giorgi, 2012, pp. 5 - 6).

After the first step, the researcher then returned to the descriptions “and [began] to reread it, more slowly this time, and the attitude adopted [was] a synthesis of the phenomenological reduction, a psychological perspective, and mindfulness... (Giorgi, 2009, p.143). Giorgi describes the next step of the method:

The researcher then goes back to the beginning of the description and begins to reread it. This time, every time she experiences a transition in meaning from within the aforementioned attitude, she makes a mark on the description. This is the process of constituting parts. Most descriptions are too long to be retained easily and so the constitution of parts helps in the analysis. These parts are called meaning units and they are arbitrary and carry no theoretical weight. They are correlated with the attitude of the researcher. It is assumed that different researchers will have different meaning units (Giorgi, 2012, p.5).

While the researcher was engaging with the description, significant shifts in meaning were identified and demarcated throughout the text. “It is a spontaneous activity that is more experientially determined rather than intellectually so. The lived experience of the researcher plays a role here because the discriminations taking place are directed toward the lived experience of the other. Cognitive processes assume a greater role in the next step” (Giorgi, 2009, p. 130).

After each transcript was reviewed, it was transferred to an Excel spreadsheet, so each meaning unit was in its own cell. During this transcription process, meaning units were reconsidered and adjusted and memoing continued. The creation of meaning units can vary by researcher. Giorgi noted that, “Different researchers could easily have different meaning units because there are genuinely different places where transitions in meaning can occur” (Giorgi, 2009, p.130). What is important is that the researcher assumes the phenomenological reduction and does not impose any analysis while the meaning units are being constructed. Meaning units “simply represent practical outcomes of making the description manageable and help the critical other locate places in the original description that motivate the transformations that the researcher makes” (Giorgi, 2009, p.130). The researcher corrected disfluencies and interruptions in the flow of speech in the process of transferring the meaning units to the spreadsheet. Table 4 shows examples of a transferred meaning unit.

Table 4

Examples of Edits to Meaning Units for Disfluency

Transcript	Meaning Unit
Um, so it just kind of makes me feel like I'm not...Not alone, but, um...I don't know how to explain it. Like, there are other people doing the same thing, and that's kind of, like, motivating for me to be there	So it just makes me feel like I'm not alone but, I don't know how to explain it, there are other people doing the same thing and that's kind of motivating for me to be there.
I usually bring my laptop and a notebook, this way I can pull up the, um, homework or the assignment, and then I can, like, write it out, or do my notes in, um, the Learner Commons library area, and then write down my notes from the slides and everything.	I usually bring my laptop and a notebook. This way I can pull up the homework and the assignment and then I can write it out or do my notes in the Learning Commons library area and then write down my notes from the slides and everything.

Once the meaning units from all transcripts were transferred, a total of 284 rows were in the Excel sheet. Each meaning unit included the code for the participant and the questions for which the meaning unit corresponded. The next step in the process is the “transformation of participant’s natural attitude expressions into phenomenological psychologically sensitive expressions” (Giorgi, 2009, p.130). The researcher moved on.

In the next step, the researcher transforms the data, still basically in the words of the subject, into expressions that are more directly revelatory of the psychological import of what the subject said. In other words the psychological value of what the subject said is made explicit for the phenomenon being studied. The use of the method of free imaginative variation is critical for the completion of this step. Step three is the heart of the method (Giorgi, 2012, pp. 5 - 6).

This is the most laborious part of the process and may take several transformations to distill the constituents of the structure. Giorgi noted that the researcher needs to be curious about the data and consider all perspectives.

One has to appreciate that step 3 is a process that will take some time. It is not accomplished quickly. One has to dwell with the data, change and vary it imaginatively, which includes imagining the opposite of what one might desire to express, until one finds an expression that is suitable. The researcher may have to write several versions before achieving the desired expression (Giorgi, 2009, p. 132).

The researcher added additional columns on the Excel spreadsheet to accomplish the transformations. In the first column the data was restated in third person. For example, “It makes them feel less alone, though it is hard for them to fully explain. Knowing that other people are doing the same is motivating and encourages them to keep showing up.” This created a sense of

neutrality and foregrounded the description rather than the individual participants. After the first transformation into third person, each meaning unit was interrogated again and transformed and combined when appropriate. At this point, a limited number of expressions needed additional transformations while others had met the invariant threshold and constituents began to emerge. “In addition to highlighting the psychological, the transformation also tries to generalize the data to a certain degree so that it becomes easier to integrate the data from various participants into one structure” (Giorgi, 2009, p. 132).

Table 5

Psychological Transformations of Meaning Units

Third Person	Psychological Transformation
It makes them feel less alone, though it is hard for them to fully explain. Knowing that other people are doing the same is motivating for them to be there.	The participant experiences a shift from a sense of isolation to a sense of not being alone. Although the experience evades precise articulation, the awareness of others engaging in the same activity is a motivating force that fuels the participant's momentum.

Additional examples of transformations can be seen in Appendix F.

Starting from the meaning units and then to the psychological transformations, the researcher distilled the participants' interviews into invariant constituents which are distinct but interdependent components of the overall structure of the phenomenon. “The direct and psychologically more sensitive expressions are then reviewed and with the help of free imaginative variation an essential structure of the experience written” (Giorgi, 2012, p. 6). Each constituent identified was required for the structure to be stable and represent the whole experience. One could imagine a table as the structure and the legs as the constituents. If one of the legs is missing, the structure could not stand. “In creating structures, one delineates

constituents, but one must be mindful that the constituents are interrelated. Or better, the structure is the relationship among the constituents” (Giorgi, 2009, p. 102). Structures in descriptive phenomenology reveal the “psychological aspects of the experience in a heightened way” (Giorgi, 2009, p. 103). Because of the nature of Giorgi’s method, the goal is not to expose the most universal interpretation or the most granular of the phenomenon. Those analyses would be achieved with a different method. Rather, the researcher focuses on the essential components of the experience, not generalizable themes to build the structure of the experience. Once the structure is developed, the researcher can use the results to go back and interrogate the data. “The structured analysis is used to reflect on and clarify the raw data until the analysis is concluded” (Giorgi, 2012, p.6).

Trustworthiness

Quantitative research aligns directly with the scientific method which ensures rigor in reliability, validity, and transferability. Although the data collection and analysis process in qualitative research does not produce positivist data, researchers have “found qualitative equivalents that parallel traditional quantitative approaches to validation” (Creswell & Poth, 2018, p. 254). Trustworthiness as a method of validation was first introduced by Lincoln and Guba in the mid-1980s and continues to be a best practice in the qualitative research process. Trustworthiness, according to Lincoln and Guba, is operationalized by five distinct approaches: credibility, authenticity, transferability, dependability, and confirmability (1985). The researcher incorporated tenets of each approach to establish trustworthiness.

Credibility

Each interview was recorded and transcribed by the researcher. This allowed the researcher the opportunity to review the data as many times as needed to understand the sense of

the whole of the phenomenon. Prior to data collection, the researcher maintained an audit trail of decisions, meetings, and activities made throughout the research study and a reflexive journal to identify any bias or preconceptions. The data analysis process began with documenting the answers, staying faithful to the participants' meaning through thick description and working through the steps of the analysis process. The researcher memoed throughout the research project to capture more spontaneous reactions, impressions, decisions, and justifications which were incorporated into the audit trail.

Authenticity

The descriptive phenomenological method supports the authentic representation of the meaning and essence of the data collected and bracketing is essential to the process. "...by understanding that the given has to be seen merely as a presentational something rather than the familiar 'object that always is there,' new dimensions of the total experience are likely to appear (Giorgi, A, & Giorgi, B, 2003, p. 249). This framing process allowed the researcher to gather an authentic interpretation of the experience.

Transferability

The researcher provided a detailed description of the target population and employed purposeful sampling which is described in this chapter and reinforced in the recruiting process. The interview guide was also included in the documentation. These details provide a foundation for replicating the study in a similar context. Like credibility, the thick description that the researcher gathered supports transferability as well. As Lincoln and Guba (1985) noted, "Thus the naturalist cannot specify the external validity of an inquiry; he or she can provide only the thick description necessary to enable someone interested in making transfer to reach a conclusion about whether transfer can be contemplated as a possibility" (p. 316).

Dependability

The researcher employed and maintained an audit trail throughout the study to make the decision-making process transparent. This is further supported by the detailed descriptions in this chapter of the data gathering and analysis process and procedures. The reflexive journaling undertaken provides a window into the researcher's reasoning and allowed them to be "skeptical of it [the data] as he or she goes along so that greater confidence in the outcome can be established" (Giorgi, A, & Giorgi, B, 2003, p.259). Giorgi's method, which was followed in this study, supports a transparent and logical progression of analysis.

Confirmability

The findings of the study were vetted through the researcher's dissertation committee that included a qualitative researcher and a subject specialist. The steps taken to ensure a transparent and logical process and procedure support the findings and can be confirmable by other researchers. Faithfulness to the responses were ensured by the method as well as by including direct quotes from participants to support the outcomes of the study.

Chapter Four

Results

Introduction

The purpose of this qualitative study using a descriptive phenomenological approach is to explore how the physical and social characteristics of informal learning spaces in academic libraries influence students' SDL experiences for university students in Northeast Pennsylvania (NEPA). The physical and social characteristics of informal learning spaces were defined as flexible, comfortable, and technology-equipped physical spaces that allow students to engage in social learning activities such as group discussions, individual study, and collaborative projects. The researcher employed Giorgi's Descriptive Phenomenological Method to understand how the participants experienced the phenomenon from their own description of the experience.

Demographics

The study was open to full-time, part-time, undergraduate, and graduate students. All participants who were interviewed were full-time students and 3 of the 14 participants were graduate students. Also, 3 of the 14 students were male with 11 being female. Although the study was open to part-time students, no one self-selected to participate.

Because descriptive phenomenology is not intended to compare groups or distinguish findings by demographic characteristics but rather find the essential structure of a lived experience, the small number of male and graduate students and no part-time representation among the participants did not affect the analysis of the phenomenon. The findings emerged from rich descriptions from participants with direct experiences of the phenomenon. However, it may influence the transferability of the findings to those populations. See table 6.

Table 6*Participant Chart*

Participant	Level	Enrollment Status	Gender
Participant 1	Graduate	Full-Time	Male
Participant 2	Undergraduate	Full-Time	Female
Participant 3	Undergraduate	Full-Time	Female
Participant 4	Undergraduate	Full-Time	Female
Participant 5	Undergraduate	Full-Time	Female
Participant 6	Undergraduate	Full-Time	Female
Participant 7	Graduate	Full-Time	Female
Participant 8	Undergraduate	Full-Time	Female
Participant 9	Undergraduate	Full-Time	Female
Participant 10	Graduate	Full-Time	Female
Participant 11	Undergraduate	Full-Time	Male
Participant 12	Undergraduate	Full-Time	Female
Participant 13	Undergraduate	Full-Time	Female
Participant 14	Undergraduate	Full-Time	Male

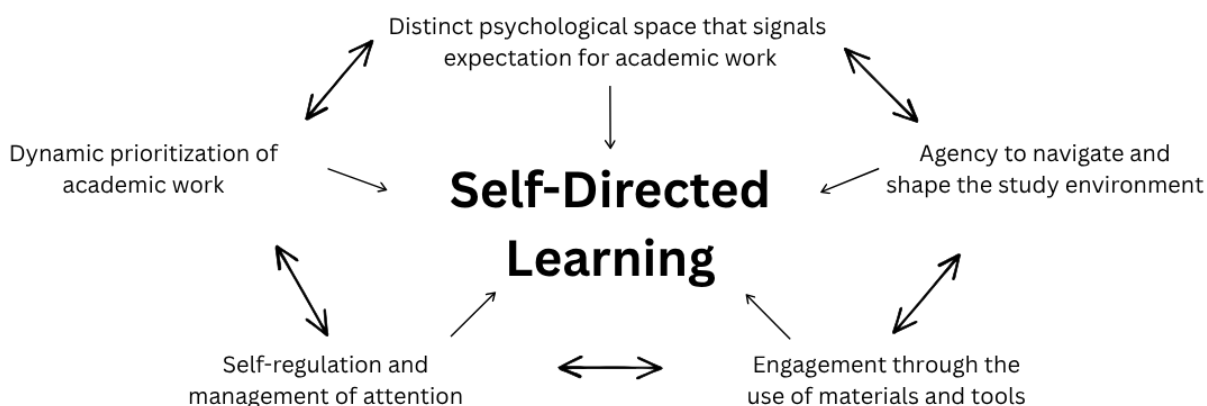
Structure

From the descriptive phenomenological analysis of 284 meaning units, the study findings showed that five characteristics are invariant constituents. These recurring aspects of the phenomenon surfaced across the participants' descriptions and were essential to the nature of the experience. They were so foundational to the phenomenon that it would cease being the phenomenon if they were eliminated from the participants lived experience. "The criterion is that the structure would be radically altered if a key constituent were to be removed" (Giorgi, 2003, p.258).

Once the invariant constituents were identified, the structure of the experience could be expressed. Figure 4 shows the interdependent nature of the five invariant constituents that make up the structure of the experience of SDL.

Figure 4

Five Invariant Constituents of Self-Directed Learning



The structure developed from the analysis is distinctly different in descriptive phenomenology than from other phenomenological approaches that result in themes,

interpretations, or theories. According to Giorgi's method, the "structure generalizes in a psychologically meaningful way, and it helps deepen the essential understanding of the experience by reducing myriad details to their essential components" (Giorgi, 2003, p.256). In this study, the following structure of the phenomenon emerged:

For the participants, SDL takes place in informal learning spaces in academic libraries when the participants recognize the environment as supportive of their personal learning goals. The library is perceived as a distinct psychological space that signals expectation for academic work. Participants described the importance of having agency to navigate and shape the study environment to support comfort and cognitive engagement. Prior to entering the space, participants anticipated their needs and brought materials and tools for academic engagement. During their time in the space, the participants regulated their focus and managed their attention while dynamically prioritizing their academic work.

Invariant Constituent 1: Distinct Psychological Space that Signals Expectations for Academic Work. Participants described a psychological shift when entering into the library's informal learning spaces to conduct their academic work and they perceived the space as effective and functional for their intended goals:

- "I feel like I go there and I'm more motivated than when I'm at home" (Participant 10).

The unspoken cues and behavioral norms attracted them to the space and were both encouraging and motivating:

- "Everyone is just trying to get their work done. Everyone is there for the same reason" (Participant 4).
- "If I am in my dorm room or another building, I think I should put in laundry or do this thing but when I am at the library that is my primary focus, to be there. There's kind of an

unspoken idea that people are there to get work done so everyone sort of respects each other in that sense” (Participant 9).

The participants were motivated by both intended purpose and convenience:

- “When I know I'm going to the library, I have that mindset, I'm going to get some work done” (Participant 10).
- “I'm a commuter so being on campus isn't ideal most of the time. I have a lot of online classes now that I'm a grad student, so when I do go to the library, it's definitely on purpose to be there for a while and to lock in.” (Participant 7).

Working alone but beside someone, often called “working-alone-together” was a motivating factor. The co-presence of others offered encouragement, reassurance, and respite from solitary academic tasks. The opportunity to socialize when taking a break from work because of proximity to others was also an encouraging factor:

- “I think that when there's other people that I see consistently doing their work, I just feel like there's a part of me that's like okay, if they can do it, then I can do it too. It just feels a little bit, uniting almost” (Participant 8).
- “It makes me feel like I'm not alone, but I don't know how to explain it. There are other people doing the same thing and that's kind of motivating for me to be there” (Participant 7).
- It feels social. If I get up to go get a drink or something, I'll run into three or four people I know. Then, I'll stop and have a little conversation. So, I'm doing my work but I'm still productive. I'm there for a reason. I'm getting what I need done and at the same time socializing and enjoying myself (Participant 4).

Invariant Constituent 2: Engagement Through the Use of Materials and Tools. In preparation, and with the intention of doing academic tasks, participants brought resources, materials, and tools that they relied on into the space. Although some items were essential for the completion of their work, like handouts or a laptop, participants also used materials and tools to support performance and endurance like snacks or recreational reading material. The essential items that they brought were part of the routine or habit of preparing to enter the space while items used for self-regulation and endurance varied by the temporal nature of their stay:

- Definitely my laptop, that's a must because a lot of our assignments are online or submitted online. I would definitely say snacks as well. It's always nice to have. I usually have my lunch with me when I go and the handout that I need to work on (Participant 13).
- “I'll normally have my laptop, tablet, maybe a sketchbook, water, and then maybe a snack from Starbucks” (Participant 12).
- I usually have headphones to block out the noise plus if I have to watch videos I need headphones. Listening to music usually helps me focus. I don't really bring anything else. Sometimes I will bring a book to break up the studying a little bit (Participant 8).

Invariant Constituent 3: Agency to Navigate and Shape the Study Environment. Participants oriented themselves in the physical space to optimize engagement and experienced the space as available and accessible for modification. They sought environmental conditions that helped them sustain their focus and would choose the level, location, and furniture that helped them sustain their performance:

- I have very specific spots in the library that I like to go to. I find that I focus better when I am physically comfortable. I need a table and I struggle personally to do my work if I'm

in one of the comfier chairs, especially if I have to write just because it's harder to get myself set up (Participant 8).

- I like to go into a corner space, mostly because I like having the windows on both sides because of all the glass in the building and so I could see outside around me. I like the corner because there's normally a lot less people there (Participant 12).

When experiencing distractions or switching from a hyper-focused activity to something that requires less attention, they adjust the environment to align with their task:

- “I do enjoy the fact that there's multiple levels to it. If you have to get out of one area, you can go to another” (Participant 11).
- I like the way the library is set up with more options, different types of seating and different spaces in terms of noise level and privacy. I chose that space to kind of lock myself into the library and just stay there until midnight (Participant 1).

Invariant Constituent 4: Self-Regulation through Management of Attention. Self-regulating strategies were implemented by participants to actively manage distractions and refocus attention. The process of reorienting and managing distraction was anticipated and a continuous concern for the participants:

- I get distracted so I choose to sit on the second floor of the library. It is not silent, but it is supposed to be a little bit more quiet. Occasionally there will be people on the phone or talking really loud. That can be distracting but I think that is the only obstacle besides getting myself distracted by scrolling my phone or looking out of the window (Participant 9).
- “I’ll bring my iPad to give myself a little break. I’ll reward myself with, like, 10 minutes of a game or something” (Participant 10).

- I usually like to be by myself. I don't mind sitting by people but I can't know them. If they're random it is fine but if it is people that I am friends with, I always get off track. We just always end up talking and during my day I have a really busy schedule, so I like to schedule my day. I like to dedicate however many hours to only studying. I find an area where I don't know anyone. I will sit there and I will lock in on all the stuff that I need to do. Because if I am just by people, especially people that I know, I will get into a half-hour update conversation and this isn't the time (Participant 5).

Invariant Constituent 5: Dynamic Prioritization of Academic Work. No one type of prioritization emerged from the participants as the most often implemented but all mentioned engaging in a structured ongoing process to support efficiently completing tasks. Tasks were prioritized before going to the library, when they arrived, and ongoing as they used the space:

- “When I'm in the library, I always make my to-do list, whether it's for the day or just for what I'm studying or doing” (Participant 14).

Participants would organize work by level of effort, cognitive load, and the anticipated amount of time needed to accomplish the task:

- I pretty much use a checklist. Either what is due the soonest to start or if there's something that's long, that I need to do in steps. I try to do that first and then follow it with something easier to give myself a bit of a mental break (Participant 8).
- “It'll either be chronological order or it'll be based on an easy task that I could just knock out, get it out of the way, and then tackle the harder one” (Participant 10).
- I usually sit and make a list of assignments and then I will think about how much time I have to be at the library. If I only have a little bit of time, I will pick something that I know I can get done during that time” (Participant 9).

Summary

This chapter explored how the physical and social characteristics of informal learning spaces in academic libraries influence students' SDL experiences. The researcher interviewed 14 full-time students at a small, private university in NEPA. The majority of participants were undergraduate students and identified as female and the interviews took approximately 20 minutes.

Using Giorgi's Descriptive Phenomenological Method for analysis, the researcher found that there were five invariant constituents that support SDL for the participants in the study. The informal learning space invoked a mindset that psychologically shifted the participants' frame of mind and oriented them to the intended task. Participants described the experience of the space as psychologically different from other spaces available for learning, like their dorm or a cafe, in that it offered fewer distractions, quiet areas, and allowed participants to focus. When the participants entered the space, they felt they were joining like-minded others who have the same objectives and understood the behavioral norms of the space. The co-presence of others was a motivating factor, but direct social interaction was mitigated and took place when the participants took breaks to manage cognitive load. Before entering the space, the participants anticipated their needs for the time they planned to spend engaging in their work by bringing materials and tools (binder, notebook, computer, snack) that would support and sustain their efforts. While in the space, the participants self-selected the environment they occupied and freely modified the space so it optimally supported their mental processing demands. Participants described the importance of having the agency to select the floor (a quiet floor or more social space) and environment (desk, chair, lounge, looking out the window) that was comfortable and

supportive. A structured and ongoing process was used by the participants to effectively organize work within the time anticipated and facilitated the learning activity.

Chapter Five

Discussion

Introduction

Using Giorgi's Descriptive Phenomenology Method, the invariant constituents and structure of the experience of SDL emerged. The findings of the study demonstrated that successful SDL in the library is not only facilitated by the preparation and priorities of the students, but it is also impacted by the psychological experiences and processes that are brought forth by the environment. Successful use of the space is supported by the learner's sense of autonomy, competence, behavior patterns, relatedness to others using the space, and temporal, physical, and accessibility constraints of the space.

In this chapter, the findings in chapter four will be interpreted and explored through the lenses of the theoretical frameworks. The implications, limitations, and recommendations for future research will be presented. The chapter will end with a conclusion of the study and findings.

Interpretation of Findings

Constituent 1: Distinct psychological space that signals expectation for academic work.

The findings of this study indicate that informal learning spaces in the library are experienced as distinct psychological spaces that learners chose for academic work over other locations available. Consistent with the findings of DeFrain et al., (2022), informal spaces in the learning commons have a uniqueness that learners experience differently than other informal learning spaces. Entering the space transitions the learner into a mindset that supports deeper concentration and sustained engagement. Qualities of the space are described by the learner as comfortable, calm, filled with natural light, and peaceful. There is an unspoken understanding by

all the learners in the space of the characteristics, common goals, and behavioral expectations of the environment. These findings demonstrate that academic libraries have made the transition on campus from a space that houses books and resources to a space for the construction of learning by the self-directed learner. They provide the space for reflection and integration that is central to what Kuh (2008) identified as high-impact practices. This uniqueness, or as Cox (2018) described as “libraryness,” has not been successfully replaced by other informal learning spaces because alternative spaces lack the ethos of the library. This study has found that as alternatives have been explored by these participants, none have satisfied the needs and expectations of the learner indicating the necessity to preserve and understand how these spaces support academic success.

These findings are strengthened when viewed through the lens of Behavior-Setting Theory (Barker, 2016) which proposes that individuals' behaviors are shaped by the social and physical environment that they enter. Participants described their behavior in entering the informal learning spaces as ritualist or habitual. They anticipated their needs prior to entering and selected the same spot each time they used the library. These behaviors helped to invoke the transition to a frame of mind for academic work. The co-presence of others in the library did not only induce the distinct mindset of the space but was described as supportive and encouraging which aligned with Deci and Ryan's (1985) Self-Determination Theory (SDT). Relatedness or the feeling of connections, belonging, and being understood are dimensions of SDT.

The informal learning spaces in the library serve a distinct purpose on campus with specific behavior patterns. Although not observed by librarians or administrators like other library activities (information literacy instruction, reference interviews, consultations), they are

highly supportive of academic success and experienced in a similar way by the participants equality regardless of major or academic status (undergraduate or graduate).

Moving into the informal space and transitioning one's mindset for academic work provided a sense of motivation for the participants. Garrison (1997) refers to this as "entering motivation" and is one of the two dimensions of motivation in his self-directed learning model. The second dimension is "task motivation" which sustains the learner to accomplish their goals. According to the findings, task motivation was on a spectrum with participants feeling a sense of accomplishment if they engaged in at least some amount of academic work when using informal learning spaces while others sustained their engagement with their task until a specific goal was accomplished. This spectrum was impacted by their short-term priorities and temporal restraints of the learners. Regardless of the intensity of the academic work, being in the distinct psychological space was described as encouraging, validating, and motivating. This reinforced the recurring use of the space. None of the participants discontinued or reduced their use of the space based on academic needs but the most common reason for not using the space was lack of convenience.

The descriptions shared while interviewing the participants for this study revealed that they were highly skilled in managing their motivation and productivity. The researcher found that traditional library services did not play a role in SDL in the informal learning spaces nor were interventions needed on the part of a librarian. Rather, this demonstrated that the librarian's main role in SDL on campus is to understand the user's needs and preserve the informal spaces for knowledge creation and equitable access. Librarians are uniquely positioned to provide this expertise on campus.

Constituent 2: Engagement through the use of materials and tools.

Like moving into the psychologically distinct area, participants described equipping themselves with the tools and resources for academic work in a habitual or ritualist way. Prior to entering the space, learners anticipate the resources and tools they intend to use while engaged in academic work. Some of the items they brought each time and some, like assignment specific handouts or activities, varied based on what they intended on accomplishing during their time in the space. Participants described arranging materials in a systematic way on the tables or within the cubicle space and using items in the same order which helped them to reduce uncertainty, use their time strategically, and reduce anxiety about the task at hand. Anticipating and taking responsibility for their needs while in the space are key attributes for a successful self-directed learner (Brockett & Hiemstra's, 1991). Using tools and resources to construct a personal learning system signals that the learner is experiencing a sense of autonomy and competence as they take on the task which aligns with dimensions of SDT.

Tools were used to ebb and flow between the digital and physical world with a seamless dexterity and facilitated focused engagement, cognitive resets, psychological relief, and comfort. Food and drink were often brought into the space to help sustain the learner or provide a distraction between tasks. Only one participant mentioned using materials that were in the physical library and that she could only access while she was there. Most participants brought their tools and resources with them in order to engage in SDL. They were an integral part of the experience for the learner. The informal learning environment helped the learner operationalize the use of tools and resources.

The various descriptions of how materials and tools were used among the participants indicate that the learning commons supports the unique ways that learners engage and structure

their SDL environment and experience. As resources, both physical and digital evolve, the findings of this study indicate that the learning commons needs to respond to these changes by continuously adapting so it can meet the diversity of approaches to learning that are supported by resources in informal learning spaces.

Constituent 3: Agency to navigate and shape the study environment.

Participants actively constructed their environment from the moment they selected, entered, and while using the informal learning space. When entering the space, the selection was predetermined based on prior experience in the space and rigor of the academic task, the usability of the space, and the comfort level. In BST this is referred to as “standing patterns of behavior” (Barker, 2016, p.42). When engaged in focused, cognitive-heavy work, learners selected spaces that would provide personal spatial autonomy which supported concentration and signaled to others in the environment their intention but kept them connected to the library environment.

The participants described the different floors and spaces as serving different purposes. The first floor of the learning commons was a social area for collaborative work that allowed more noise and distractions and offered access to drinks and snacks. The second floor was a transitional level that served as a space where a learner could find others engaged in collaborative work as well as solitary activities. Lastly, the third floor was for quiet study and provided access to individual cubicles as well as long tables. This aligns with BST which recognizes that “behavior, environment, and relevant objects are united in a stable unit with clear boundaries” (Barker, 2016, p.42). The furniture selected by the participants also indicated the intended use. Cubicles allowed them to set boundaries and manage distraction. Tables were used to organize tasks, resources, and tools. Prior to entering the learning commons, the participants

planned for the space they needed for their intended work and made a selection based on their anticipated needs.

Participants describe changing locations in the learning commons as they navigated between different tasks and regulated activities. Furniture was used to sustain engagement, often switching from a desk for working on a laptop to comfortable, soft seating for reading or watching a video on the phone. Furniture was moved by the participants to construct environments that were experienced as productive, peaceful, calm, supportive, and minimized distraction. The environment they constructed provided psychological and cognitive relief while occupied by the learner which allowed them to sustain their efforts. BST correlated to these findings because the participants had very similar strategies on how to utilize the space for SDL. According to BST, personal traits of individuals have less impact on behaviors than the place and the activities of the environment (Barker, 1968).

The findings indicate that it is important to maintain the characteristics and variety of environments in the library to support SDL, so it meets students' expectations each time they use the space. It is important, "...to structure the relevant behavior settings in such a way that they offer functional and normative possibilities..." (Kalis, 2023, p.62). The library needs to be intentional about the different zones that it creates so the students can choose the right environment for their intended task. However, that needs to be balanced by providing students with some control over the environment so they can adapt it to their immediate needs.

Several participants described the natural light and the large windows that opened up to the beauty of the surrounding landscape as regulating and grounding. The visual distraction offered a brief disengagement that reduced mental saturation. Some described it as enhancing their creativity. Library administrators should consider maintaining and providing more access to

these spaces. The findings of this study suggest that they may serve to increase creativity and offer periods of rest between activities. In spaces that do not provide access to nature light, like study rooms, library leaders can consider adding biophilic design elements, like plants and natural materials, to connect students to the natural imagery or organic forms. Intentional design in these spaces, "...are effective and important in improve the environmental quality of the behavior setting" (Keshmiri & Nikounam, 2023, p.5).

Constituent 4: Self-Regulation and Management of Attention.

Participants entered the library space with the intention of limiting distraction and increasing focus while engaged in academic work. There were overlapping strategies among the participants for how to accomplish this, but what was revealed was a strong sense of self awareness. While the participants were engaged in the process of learning they were consciously and subconsciously self-regulating and managing their attention with a level of competence that came from prior experience in the environment and knowing oneself. Their strategies to manage the environment were of as much concern to the participants as was their ability to accomplish their coursework. This demonstrates the importance of acknowledging the psychological and emotional processes that are at play while the students are engaged in SDL when making decisions that would alter the zones created in the learning commons or heighten distractions. It also indicates that for SDL in the learning commons, the role of the library administrator is not to intervene in the process but rather advocate for the autonomy of the student in the space.

Viewing the findings through the framework of SDT, competence is one dimension of the model. According to Morris's (2023) research on adult learning, "...competence for self-directed learning [is] the most essential outcome goal of education..." (p. 238). From the findings of this study, the sense of competence for the self-directed learner was not just the ability to

comprehend the material but it was also to be able to self-regulate and manage attention while moving toward their goal. Morris (2023) also posits that competence is what moves the self-directed learner towards autonomy which is another dimension of SDT.

Self-regulation and attention management strategies provided opportunities for participants to disengage and allowed for cognitive recovery from intense work. These moments were built into the SDL process and included rewards like watching a video on their phone, getting a snack, or socializing. Access to these “off-ramps” that provided comfort and rest were an important part of the self-regulation process and supported the sustained engagement, persistence, and momentum of the participants. The physical environment of the informal learning space facilitated these strategies and future design, and organizational decisions need to incorporate access to these resources and spaces that allow for individual restorative strategies. It is important to recognize that each learner approaches their moments of reward or disengagement in diverse ways, so a variety of spaces and resources are vital. It is also important that librarians or administrators do not impose a one-size-fits all approach to recover spaces in that one student might find socializing exhilarating and restorative while another needs private time. Assessing students’ needs for these spaces is essential.

Constituent 5: Dynamic Prioritization of Academic Work.

The participants engaged in an ongoing process of prioritizing their work. The process began before they entered the space and included organizing, planning, and monitoring task completion. Much like self-regulation and management of attention, the prioritization of academic work by the participants was based on prior experience of SDL in informal learning spaces and self-awareness, but prioritization had the added dimensions of reflection and perceived value of the activity. The participants used different strategies to prioritize work. Some

used a written checklist on paper, their computer, or one of the whiteboards or they laid out small notes within the space and checked them off as they progressed through their work. The majority set short-term goals for the time they were in the space, but they scaffold up to longer-term goals. As activities were accomplished, some participants reprioritized their goals based on temporal issues or other issues that affected their progress. The ability to change activities and have immediate, unmitigated access to an alternative environment or zone supports the dynamic prioritization of self-directed learners. Ensuring that these spaces are accessible throughout the learning commons allows learners to maintain momentum and workflow with limited disruption or the need to find an alternative space.

These findings are supported by Marsick & Watkins (1990) *Informal and Incidental Learning Model* that describes, “critical reflectivity - taking the time to look deeply at one’s practice to identify values, assumptions, and beliefs that govern actions” as an “enhancer” to SDL (p.7). Some ways participants made value decisions were based on utility. Work that was easier to get done would be completed first to get it out of the way or saved to last because they were experiencing cognitive fatigue after completing other assignments. Some prioritized work by attainment value by regularly working on subjects they found difficult but wanted to gain a level of competency. Overall, the prioritization of academic work demonstrated a strong sense of autonomy and competence, key dimensions of SDT. Based on the descriptions of the participants, the findings show that what one values as important in the moment, utility or attainment, and the cognitive processes involved in those activities can be successfully achieved within the informal learning space in the learning commons.

Implications

Descriptive phenomenology endeavors to recognize and clarify the lived experiences of individuals rather than surface a shared meaning in the phenomenon among participants.

Consequently, the implications of this study offer academic librarians, library and information science researchers, and higher education administrators a deeper understanding of how the library supports the self-directed learner and contributes to student success.

This study was conducted at a small institution that is highly dependent on tuition revenue and strong year-to-year retention of students like many small institutions. The findings demonstrated that the students' experience of the physical, social, and psychological environment of the library plays a significant role in how they manage their academic responsibilities. Careful planning and assessment need to be completed before changes to library spaces are made because of the complexity of the human experience. Many times, the library building plays a prominent role within the campus footprint of a university and the social learning that takes place in the space is a visual confirmation to administrators that the space is active and engaging for students. Librarians and library administrations need to remind higher education administrators that learning is not about spectacle, and like dark matter that does not emit, absorb, or reflect light, autonomous and SDL is not visible yet is a significant contributor to the learning process.

Library administrators are relying more and more on data analytics to make operational and strategic decisions around space usage and access (Roy, 2026). Relying solely on data dashboards and quantitative measures does not take into account the individual needs of the students. The library in itself is a collaboration with the university curriculum that supports high impact practices and offers the space for reflection, the integration of in-class learning, and the

process of meaning making. It offers equitable access to all students regardless of the students' program of study. As more learning moves outside the classroom and becomes increasingly collaborative, the library, which has always been a haven for autonomous learners, becomes critical to success. This study provides a launching point for library leaders to advocate for students' library space as a tool for retention and student success.

Because libraries are being asked to demonstrate their value on campus, there have been a number of quantitative studies that correlate library instruction, visits, and use of resources to student success (Croxtton & Moore, 2020; Fitzgerald et al., 2025; Yu & Dobry, 2025). Although there is a positive relationship between library use and student success, library researchers cannot claim true causation which is an inherent limitation for social science research. Rather than looking for causation, the results of this study offer a different approach to understanding the impact of the library on student success. This study established a structure for SDL in informal learning spaces and can be used as a framework to understand how the space is used and contributes to learning. Instead of demonstrating value through the number of visits to the library or student satisfaction surveys, the library can gather qualitative data on how students successfully engage in the learning process in the library.

Although quantitative studies have added valuable insight into the impact of libraries on campuses and can be used to advocate for academic libraries, their limitations must be clearly articulated to campus decisionmakers who are looking to quantitative measures. The findings of this qualitative study demonstrate the need for rich, qualitative research in addition to quantitative data as a comprehensive approach to assessment and planning.

Limitations

When this study was developed, a few limitations were identified. This study inherently has design bias because it took place in a specific location with a homogeneous sample which could limit its transferability to the general population. For this study to be replicated and applicable to other locations and populations, thorough documentation of the data collection and analysis process was employed.

As the study progressed, additional limitations emerged. All of the participants had generally positive experience with using informal learning spaces in the library. Very few expressed any meaningful challenges other than it being busy at certain times of the year. The researcher must acknowledge that the university students could have responded to interview questions in a socially desirable way or exhibited response bias by answering the questions, intentionally or unintentionally, in a way they think the researcher would have liked them to respond. This limited data collection around the physical and environmental factors that might hinder the use of the spaces. The researcher suspected that the population that would express difficulty with using the informal learning spaces would not volunteer for this study. Hiratsuka referred to this as the volunteer participation paradox (2025). Volunteers that self-select, "...may be different from those who do not, possibly hindering the achievement of research goals and addressing primary questions" (p.2).

Another concern for the researcher that could have created a limitation in the data collected was the incentive. Each participant in the study received a \$25 Amazon gift card. The researcher took this approach because of the desire to recruit volunteers quickly and efficiently. Although the researcher reviewed the inclusion criteria at the beginning of the interviews, the incentive may have encouraged the participants to elaborate on their use of the library. Many of

the participants mentioned after the interview that for most studies at the university, volunteers are put into a drawing for a gift card rather than receiving one for just doing the interview. The desire to receive the gift card may have encouraged volunteers that would normally not volunteer.

Lastly, the data has a limited number of interviews with graduate and male students and none from part-time students. The lack of representation from these populations could influence the transferability of the findings.

Recommendations for Future Research

As artificial intelligence (AI) continues to integrate into the higher education ecosystem, its potential is being explored by librarians. Although this study did not ask participants specifically about their use of AI in the space, it did demonstrate that the use of technology and access to online resources was a fundamental part of their SDL experience. Further research could be done on the impact of AI on SDL in informal learning spaces. Does AI impact the amount of time students utilize the spaces, how they organize the environment, self-regulate, prioritize, or how they interact with others while in the library. Would it affect the psychological experience of the space as a distinct area; could it help students transition into the mindset and sustain efforts for academic work.

This study did not include volunteers who were part-time students. Understanding the lived experiences of part-time students using these spaces for SDL would provide data for library leadership to respond to the unique needs of this population. It would also be interesting to understand the perspective of the population of students that never use the space. Convenience was a contributing factor to the use of the space according to the study's participants so this

could have a significant effect on the use of the space by part-time students but understanding if there are other needs that are not being met, would help practitioners provide better services.

Lastly, research that helps librarians understand their role in supporting the structure of SDL in the library would help practitioners cultivate an environment and a service model that supports learners' success. Librarians have always been the experts that library users turn to for just-in-time services. They constantly create and recreate passive and active physical and digital environments for autonomous learners to engage and access. Librarians need to understand how their expertise can continue to support SDL in the library.

Conclusion

This descriptive phenomenological study sought to contribute to the body of research around students' experience of SDL in informal learning spaces in academic libraries. The researcher gathered rich descriptions from the participants of the physical and social characteristics of the space that influence their ability to achieve their academic goals. The participants shared the importance of comfort, how they modified the space and prioritized their work, and how access to these informal spaces impacted their academic success.

The findings of this study demonstrated that there were several factors that influenced the participants' ability to be successful independent learners in the library which included spatial, temporal, and psychological conditions. They described an environment that was supportive of their learning activities by having a distinct psychological space that was widely understood by the others present in the space. The collective experience was described as motivating and encouraging, and for the participants, they could not find a suitable alternative to the library that would offer the same ethos. The participants described the space as accessible and navigable giving them the agency to identify study environments that supported comfort and cognitive

engagement as well as moments of disengagement and recovery. Anticipating needs, the participants brought with them tools, technology, and comfort items that would sustain them throughout the duration of the time that they planned to remain in the library. The participants explained the obstacles that affected their ability to regulate and manage their focus while utilizing the informal learning spaces and how they effectively managed these obstacles.

This study contributes to the literature a unique approach to demonstrating the libraries' value to the academic enterprise. The review of the literature showed that much of the research around the use of library spaces focused on users' behaviors, preferences, activities, and patterns. Although these existing studies can inform practice and infer value, they cannot illustrate the lived experience of the self-directed learner. The descriptive phenomenological approach goes beyond individual preferences to reveal what is truly essential about the lived experience of SDL. The findings of this study demonstrated that there is a structure to SDL in the informal learning spaces, and when explored, can provide insight into how students learn in those spaces.

Although descriptive phenomenology does not generalize findings, this study offers practitioners a transferable framework that could be part of a comprehensive library assessment program and strategic planning process. It might uniquely resonate with librarians at other small private universities where there are few informal spaces and the library is the primary space for gatherings on campus. In some cases, as the literature review found, the learning commons serve multiple uses besides housing the library. As libraries move away from "book boxes" to spaces where knowledge is created, resources are accessed, and students gather, library administrators can use these finding to advocate for the needs of the self-directed learner and preserve environments within the learning commons that support student success.

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Appendix A

WE ARE

PARTICIPANTS FOR A RESEARCH STUDY



LOOKING FOR

Participants are being sought for a study that explores how the physical and social characteristics of informal learning spaces in academic libraries influence students' self-directed learning experiences.

Qualifications

- Current undergraduate or graduate student (ages 18–25)
- Enrolled full-time or part-time at Marywood University
- Spent time in the library within the last three months
- Fluent in English
- Available for a one-hour interview via Zoom

Benefits for participating in this study are a better understanding of how you use the library spaces for self-directed learning, and the opportunity to inform your study strategies.

Each participant receives a

**\$25 Amazon
Gift Card!**



For more information email
Leslie Christianson at:
lwchristianson@m.marywood.edu

Appendix B

Recruitment Email

Subject: Research Participants Needed: Get a \$25 Amazon Gift Card

Dear Students:

My name is Leslie Christianson, and I am a doctoral student at Marywood University. I am conducting a research study. Its purpose is to explore how the physical and social characteristics of informal learning spaces in academic libraries influence students' self-directed learning experiences.

You are invited to participate if you qualify. To qualify, you must be

- An undergraduate or graduate student currently enrolled part-time or full-time at Marywood University
- Between the ages of 18-23
- Spent time in the library within the last three months
- Fluent in English

The research will take place via Zoom. It will take about an hour.

Benefits for participating in this study are a better understanding of how you use the library spaces for self-directed learning, and the opportunity to inform your study strategy to impact your academic success.

For your participation, you will receive a \$25 Amazon gift card.

TAKE THIS SHORT SCREENING SURVEY TO SEE IF YOU QUALIFY

If you have questions about this study at any time, contact the principal investigator:

Leslie Worrell Christianson

Doctoral Student at Marywood University

lwchristianson@m.marywood.edu

Appendix C

Interview Guide

A Qualitative Study:

Exploring Self-Directed Learning in Informal Learning Spaces of an Academic Library in NEPA

Central Question: How do the physical and social characteristics of informal learning space in academic libraries influence students' self-directed learning experiences at a university in Northeast Pennsylvania?

Opening Script: Thank you for taking the time to talk with me today. I am interested in learning more about how you use informal learning spaces in the library, such as comfortable, flexible seating, study carrels, and social lounge spaces for your own learning.

There are no right or wrong answers. I am just interested in your experiences, in your own words.

With your permission, I would like to record our conversation so I don't miss anything. Before we get started, I would like to go over the Informed Consent Form (share with interviewee). If you would like a copy of this form for your records, I can send you a copy.

Interview Questions

Space

1. Can you describe the space you use when you do academic work in the library (e.g., seating, sound, lights)?
 - a. What drew you to that particular space?
 - b. How do you feel when you're working in these types of spaces?
 - c. How often do you use these types of spaces?
 - d. Why do you come here rather than another space outside of the library?
2. Do you modify or arrange the space when you're using it?
 - a. Do you bring anything with you (e.g., snacks, supplies, technology)? Why?
 - b. Do you choose to work alone or with a group? Why?
 - c. How long do you normally stay?

Learning

3. When you are using these informal spaces, how do you approach your learning?
 - a. What kind of work do you do here?
 - b. Do you set goals for yourself in these spaces?
 - c. How do you know you are making progress?

Challenges

4. Are there any challenges you have faced when using these spaces?
 - a. What do you see as the advantages to using these spaces?
 - b. What do you see as the disadvantages to using these spaces?
5. Is there anything else you would like to share about your experience using these types of spaces?

Use gentle prompts like “Can you say more about that?” or “What did that feel like?” to encourage elaboration. Maintain a conversational tone, but allow silence for reflection. Be attentive to nonverbal cues and offer to pause or clarify as needed.

Appendix D



Associate Vice President for the Student Experience

August 29, 2025

Exempt Review Committee
Marywood University
2300 Adams Avenue
Scranton, PA 18509

Re: *Self-Directed Learning in Informal Learning Spaces*

Dear Exempt Review Committee:

This letter confirms that as an authorized representative of Marywood University, I am aware of Leslie Christianson's research project and protocol.

I will allow the investigator to recruit potential student participants at Marywood University. Specifically, I will grant authorization to have the investigator's email recruitment message posted to the "students" email distribution list, with assistance from Adrienne Mullikin at ajmullikin@marywood.edu. **However, activities may commence only after the investigator provides evidence of final approval from Marywood University's ERC for the proposed project.** Per Office of Information Technology policy, recruitment messages may be posted a maximum of three separate occasions during an academic semester.

If you have any questions, please contact me at kfarrell@marywood.edu or 570-340-6015.

Sincerely,



Kevin Farrell
Associate Vice President for the Student Experience
and Dean of Students
Marywood University
2300 Adams Ave.
Scranton, PA 18509
(570) 340-6015
kfarrell@maryu.marywood.edu

Appendix E

ERC Informed Consent Form

Title: Self-Directed Learning in Informal Learning Spaces

Principal Investigator (PI): Leslie Worrell Christianson

Principal Investigator Contact Information: lwchristianson@m.marywood.edu

Research Advisor: Alan Levine

Research Advisor Contact Information: levine@maryu.marywood.edu

Invitation for a Research Study

You are invited to participate in a research study about self-directed learning in informal learning spaces. You were chosen because you are a student at Marywood University, between the ages of 18-23, and spent time in the university library within the last three months. Please read this form. Ask any questions you may have before agreeing to take part in this study.

Purpose – About the Study

The purpose of this qualitative study is to explore how the physical and social characteristics of informal learning spaces in academic libraries influence students' self-directed learning experiences for university students in Northeast Pennsylvania (NEPA).

Procedures - What You Will Do

You will participate in a one-on-one interview with the principal investigator. The interview will take approximately one hour. It will take place via Zoom and will be recorded and transcribed by Zoom. After the completion of the interview, the principal investigator may contact the participant via email with some clarifying questions.

Risks and Benefits

The risks are no greater than the risks in daily life or activities. Benefits for participating in this study are a better understanding of how you use the library spaces for self-directed learning, and the opportunity to inform your study strategy to impact your academic success.

Confidentiality

The records of this study will be kept private. Information used in any written or presented report will not make it possible to identify you. No web-based action is perfectly secure. However, reasonable efforts will be made to protect your transmission from third-party access. Only Leslie Worrell Christianson will have access to the electronic files.

Taking Part is Voluntary

Participation is voluntary. Your decision whether or not to participate will not affect your current or future relationship with the investigator. It will not affect your relationship with Marywood University. You may withdraw at any time. There will be no penalty. To withdraw, tell the investigator. Your information will be deleted.

Contacts and Questions

If you have questions about this study at any time, contact the principal investigator. Her contact information appears at the top of this form. If you have questions related to the rights of research participants or research-related injuries (where applicable), please contact the Institutional Review Board at (570) 961-4782 or irbhelp@marywood.edu.

You may save a copy of this form for your records.

Statement of Consent

By proceeding:

- You understand what the study involves.
- You have asked questions if you had them.
- You agree to participate in the study.

Appendix F

Third Person	Transformed into Psychological Language	Additional Transformations
They feel like there's something about just having a space that's dedicated to doing their work where everyone else is also focused and they honestly think that seeing everyone focused on doing their work helped them stay on task too. There's also just not a lot of distractions so that helps.	They experience greater focus in spaces that are psychologically oriented toward academic work and shared productivity. Co-presence of others who are also engaged in completing similar tasks reinforces their own motivation and helps sustain attention.	
They are a commuter, so being on campus isn't ideal most of the time. As a graduate student, they have many online classes, so when they do go to the library, it is very intentional. They go planning to stay for a while and really lock in.	Commuter status and primarily online coursework create constraints that limit spontaneous access to campus spaces. As a result, the student uses the library with strong intentionality and self-regulation. Rather than a routine study space, the library is deliberately chosen.	The participant use of the library was a matter of convenience. As a result, using the library becomes a highly intentional act requiring planning, commitment of time and self-regulation. Rather than functioning as a casual or routine study space, the library is deliberately chosen as an environment that supports sustained focus, task persistence, and deeper cognitive engagement.
They usually go toward this environment because there are others, not that there are other people there, but the fact that the space is accommodating for most people that are studying	They show a preference for spaces that are conducive and designed for academic engagement and allow them to work alongside others without direct social interaction.	They show a preference for spaces that are psychologically conducive and physically designed for academic engagement and allow them to work alongside others without social expectations.
Sometimes they have to take breaks, which is probably normal because they are getting tired. But that's an outside factor. They think the main challenge is if they have goals, trying to get those goals complete by the time they leave. They just go to the restroom even if they don't necessarily have to but to get moving around.	They have to actively manage their energy, attention, and environment. Breaks are understood as a normal part of sustaining productivity and momentum, often taken when fatigue sets in. Moments such as walking to the restroom serve as a way to reset and continue working. While managing fatigue they are also acutely aware of their purpose in using the space which is to achieve the goals they set before leaving, which creates a strong sense of personal accountability.	
It's quiet in the library and a lot less traffic than when they are in the architecture building. When they are in the library, they like to go into a corner space, mostly because, one, they like having the windows on both sides because of all the glass in the building. They could see outside around, and they like the corner because there's normally a lot less people there	They experience the library as a quieter and less crowded environment than the architecture building, which makes it more supportive of concentration. They are drawn to corner spaces, especially those with windows on both sides, because the visibility outside creates a greater sense of openness and comfort. These areas also tend to have fewer people, which reduces distraction and supports a feeling of calm.	For work that requires quiet and concentration, the library is a preferred space compared to the architecture building because of the potential for social interaction and disruption. They intentionally use the library for deep cognitive tasks. When using the library, they seek out a space with fewer people located in a corner with glass on both sides so they can manage their focus and cognitive load. The openness of the windows gives a sense of connection.