Promises and pitfalls of time and efficiency in pharmacy education

by

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Abstract

Neoliberalism in higher education is geared towards preparing students for productivity and the workplace. Pharmacy education may be more affected due to the profession's business origins and a clear path from education to pharmacy practice. Critical theorists have deemed neoliberalism problematic in education because it reinforces and perpetuates social hierarchies in the pursuit of profit. It also leads to the objectification of knowledge and a focus on outcomes and achievement rather than student learning and aspirations. The concepts of time and efficiency are related to neoliberalism and are influenced by ideological, historical, cultural, economic, and political factors. In pharmacy education, these influences can be found in the formal and informal curriculum and may be reflective of the nature of knowledge in the profession.

My study problematized time and efficiency in pharmacy education drawing from critical theory and critiques of the hidden curriculum. I explored how the concepts of time and efficiency are perceived and enacted in pharmacy education. I used Foucault's discursive practices and ideas of power, knowledge, and time as my theoretical framework. I conducted a case study in conjunction with Eisner's educational connoisseurship and criticism approach to provide an in-depth and evaluative perspective of time and efficiency at one pharmacy school in Canada. My data included 113 observations from 12 courses, seven sets of institutional documents, 18 student interviews, 16 faculty interviews, and one year of reflexive journaling. I used multiple methods to critically analyze my data and subsequently examined patterns that emerged across all sources.

Time in pharmacy education was characterized by the busy student, which was reflected in conceptions of the busy pharmacist. Students and faculty accepted the busyness of school and work life, while considering the management of time as a professional responsibility. This was reinforced by timed activities and accepted practices of a highly structured and controlled student time. Efficiency was valued because it promised more time for students and pharmacists. Subsequently, efficiency was encouraged in pharmacy education by regulatory authorities and mirrored in curriculum. Students and faculty accepted a system that employed multiple ways to ensure efficiency in education and the graduation of efficient pharmacists. However, many of these mechanisms, such as standardization and examination, were hidden or unrecognized by students and faculty.

In my study, the strong interdependence of pharmacy education, pharmacy practice, and pharmacy business seems to facilitate a neoliberal agenda. When pharmacy education focuses on efficiency and achievement of educational outcomes, it can easily translate to practice that is defined by time and misses elements of good patient care. Healthcare professionals have a responsibility to provide care to improve the health and wellbeing of their patients. Therefore, pharmacy educators should consciously and actively refocus pharmacy education away from the promises and pitfalls of time and efficiency.

General summary

Educational scholars have explored how university programs are increasingly preparing students for the workforce and fulfilling economic demands in society. Some have considered this problematic because it perpetuates inequities in society and places students as cogs in the wheels of the economic engine. This may be especially pronounced in pharmacy because of the history of pharmacy as a retail business and how university pharmacy education is the only route to become a pharmacist. However, the intended role of a pharmacist is to be a healthcare provider, not as a professional in pursuit of profit. Therefore, it is important to research and evaluate how pharmacy education may overtly or inadvertently succumb to these economic forces.

I chose to study the concepts of time and efficiency in pharmacy education because these are directly related to business practices and workplace expectations. I noticed efficiency being used to describe pharmacy education in the literature and time to teach and learn as a routine measure of course and program success. To challenge this way of framing pharmacy education, I studied one pharmacy school in Canada using a research method that describes and evaluates the systems and ways in which students are taught. I observed courses in the pharmacy program and captured student and faculty perceptions on the concepts of time and efficiency. In addition, I examined multiple influences on pharmacy education, such as the various regulatory authorities and their educational guidance documents. I analyzed 113 observations from 12 courses, seven sets of documents, 18 student interviews, and 16 faculty interviews. I also maintained and

analyzed a researcher journal over the year of the study because I was an instructor in the school.

Students and faculty were regularly consumed by busyness and the demands on their time, yet they accepted this as part of school and work requirements. Furthermore, it was justified that this was part of being a professional and subsequently taught and assessed in the program through timed activities. Efficiency was perceived and recommended as the solution to the demands on time because then, students and pharmacists would have more time. Therefore, students were taught to be efficient and even the pharmacy program was organized and developed with efficiency in mind.

Time and efficiency were central to pharmacy education and the value of the concepts were strengthened by the close relationship between pharmacy business, practice, and education. However, if pharmacy education focuses on efficiency and getting students as quickly as possible into the workforce, it can easily neglect important aspects of learning to be a good healthcare provider. Therefore, pharmacy educators should be aware of and teach in ways that avoid the promises and pitfalls of time and efficiency.

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List of acronyms

AFPC – Association of Faculties of Pharmacy of Canada

APPE – Advanced pharmacy practice experience

CCAPP – The Canadian Council for Accreditation of Pharmacy Programs

NAPRA – National Association of Pharmacy Regulatory Authorities

NLPB – Newfoundland and Labrador Pharmacy Board

OSCE – Objective structured clinical examination

PEBC – The Pharmacy Examining Board of Canada

Chapter one: Introduction

This thesis originated from my conversations with colleagues about the time that students have in the pharmacy program and how best to teach to make this time worthwhile. These casual conversations regularly occurred over several years of my practice and teaching experience. Colleagues would talk about a lack of time to teach the required content or an inability for some students to complete activities in appropriate time. Memorably, one conversation was about the design of an activity that required students to counsel patients on five or six new medications in a few minutes because it was representative of practice. For me, it led to broader questions about why time was assumed and considered limited and what students thought about their time in school. I thought about what faculty members, and even I, were doing as solutions for the assumed problem with time. Efficiency came into the picture as I explored the purposes and history of pharmacy education in the literature. I discovered the use of efficiency as an adjective to describe various aspects of pharmacy education including the cost-efficiency of programs, business practices and management, pharmacy practice, and educational interventions. Just like the concept of time, there seemed to be an assumption that efficiency was important, without a definition of what it really meant (Danielson et al., 2014; Hubball et al., 2013; Mattingly II, 2018). A lack of research on how time and efficiency as concepts were taught or emphasized in pharmacy education became evident. Particularly, a critical understanding of the assumptions that pharmacy education may have about the importance of time and efficiency, and considerations on how the

concepts affect students and faculty, were largely absent. Thus, time and efficiency in pharmacy education became the foci of my research.

Pharmacy education in Canada

Pharmacy is a self-regulated health profession with provincial and national standards of practice and education. The degree programs in Canada are second-entry undergraduate programs and have transitioned or are transitioning from Bachelor of Science degree programs to undergraduate Doctor of Pharmacy degrees. Before this, the origins of pharmacy education can be traced back to guilds, apprenticeships, and technical colleges (Kremers, 1976) until relocating to universities at various times in the twentieth century (Association of Faculties of Pharmacy of Canada, 2001). Today, although programs may vary, national standards from organizations such as the Association of Faculties of Pharmacy of Canada (AFPC), the National Association of Pharmacy Regulatory Authorities (NAPRA), and The Canadian Council for Accreditation of Pharmacy Programs (CCAPP) guide curriculum and program organization. However, there are more influences on pharmacy education aside from historical and political forces. Professional ideology, economic forces, and cultural changes also play considerable roles in shaping pharmacy education. All these factors were important considerations for my doctoral research.

Research orientation

My study was situated within one pharmacy program and examined the various political, historical, ideological, economic, and cultural influences on education. I conducted my research using case study methodology (Merriam, 1988; Stake, 1995) to

capture the depth of the program, including the people within it. My research and interpretations were grounded in a critical theory perspective of the neoliberalization of educational institutions (e.g., Apple, 2006; Foucault, 1972). The purpose of my research was to interrogate systems and understandings of time and efficiency in pharmacy education. I approached my study through problematizing the concepts of time and efficiency as they are perceived, enacted, and rationalized in the pharmacy school.

My position and attention to pharmacy education stems from being a pharmacy educator and pharmacist. Therefore, I have an insider perspective with a personal stake in curriculum and pedagogy and the education of future students. Because of my background and understanding of pharmacy education, I chose to use Eisner's (1976/2005a) educational connoisseurship and criticism as a conceptual framework to guide my case study. Educational connoisseurship and criticism enabled my research to provide an in-depth description, interpretation, and evaluation of educational practices. In addition, I have an ethical and professional obligation to students and colleagues, which is further explained in the reflexivity parts of the thesis. The study was approved by institutional ethics review (Appendix A).

Research setting

The pharmacy school in my case study was one of ten Canadian schools. Established in 1986, it is situated in a large public university and is the only pharmacy school in its province. The school is considered small by enrollment numbers compared to other Canadian pharmacy schools, with approximately 200 students in the entire program. Excluding professional associates, the practising pharmacists who serve as

preceptors for experiential learning, there are fewer than 60 faculty and staff members. The pharmacy program is five years in duration and requires prerequisites equivalent to one year of undergraduate education prior to application for admission. Students are mostly in classes and laboratories for the first four years, followed by a final year of experiential education in various settings. At the start of my study, there were no students in the final year of the program because this new Doctor of Pharmacy curriculum started in 2017 and the first cohort of the program had not reached year five yet.

Delimitations

A delimitation of my study is the use of case study methodology that purposefully looks at one pharmacy school out of the ten in Canada. The results of my case study of the one school are not intended to be generalizable or indicative of how other schools create curriculum and organize their programs. It is also possible that faculty and students from other schools and jurisdictions think differently despite the presence of national education outcomes and practice standards. However, case study methodology allows for close inquiry of the school's practices by encouraging depth of study. As a member of the school, using case study permits my engagement with a range of people in the school and enables personal and collegial reflection of our teaching. It is also conceivable that the concept of concrete universal (Ercikan & Roth, 2006) would apply to my work as my results could serve as a concrete example of some possibilities that may exist at a collective level.

Another delimitation of my case study was the purposeful exclusion of two courses taught by my supervisor for ethical and research integrity reasons. Though I have

a grasp on the content and pedagogy of these two courses in the social and administrative areas of the curriculum, they are not included as data in this thesis. Observing them may have offered an alternative perspective to the problems and solutions of time and efficiency in pharmacy education. Notably, student and faculty participants did not specifically mention these courses during interviews either. However, some of my thoughts that connected to these courses were naturally incorporated into researcher reflexivity as discussions with my supervisor would have been an influence.

A third delimitation was the intentional boundaries placed to avoid observation of students in classrooms because of my insider position at the school. As an educator who would be assessing students and assigning grades, students may have felt coerced to participate during the school year. Therefore, even if students had reactions or responses to instructors teaching about time and efficiency, this study did not record them. Subsequent interviews with students outside the school year helped to get their perspectives.

Limitations

In terms of limitations, the virtual classes limited depth of observations from an ethnographic angle especially in unidirectional recorded lectures or text-based notes. Even if classes were live, it limited the ability to observe faculty interacting with students due to less student engagement in the form of questions or comments. Importantly, virtual classes led to the inability to pick up on certain nuances such as body language, facial expressions, or oral reactions from instructors and students. Luckily, the virtual

environment made it logistically possible for more observations than an in-person method because recorded classes did not need to be watched in real-time.

Secondly, the voices of individuals who created the external documents analyzed would have complemented this research but as they were people outside the boundaries of the case study, they were not recruited. Therefore, interpretation of the documents and providing rationales for their words brings a degree of speculation of their intentions. Some reliance on available guiding documents, such as appendices to AFPC educational outcomes, help to mitigate this limitation. Further, it was more important to critically analyze how participants and the school came to adopt these external documents because that would highlight the enacted curriculum.

Lastly, through this research and my experience, experiential education plays a large part in the school. Glimpses of their effect appeared in interviews and documents. Since practitioners and practice sites were outside the boundaries of this case study, this area was beyond the scope of my research. However, future research should try to understand the hidden curriculum and neoliberal forces that permeate those practice sites and how they shape students in complementary or contrasting ways.

Thesis organization

This thesis is organized into six chapters. Chapter one introduces the study. Chapter two forms the literature review, which supports my research questions. The literature review is subdivided into discussions about neoliberal education, hidden curriculum and pharmacy knowledge, influences on pharmacy education, and how time and efficiency are portrayed. Chapter three provides the methodological approach,

methods, research setting, and description of data. The critical theory framework, case study methodology, and researcher reflexivity are detailed. Chapter four presents the findings related to time and chapter five presents those related to efficiency. Finally, chapter six provides a discussion of the findings and conclusions that include future directions.

Research questions

My primary research question was:

How are time and efficiency collectively perceived and enacted in pharmacy education?

Within this question on the concepts of time and efficiency, I also asked:

How are these concepts rationalized in formal curriculum?

What informal messages or assumptions are being given to students?

How do these concepts relate to the pharmacy profession?

In my introductory chapter, I outlined the origin of my research questions as a pharmacy educator. My conversations with colleagues about a lack of time and need for efficiency in pharmacy education demonstrated the need to understand these concepts because of their potential to affect student learning and future practice as pharmacists. The thorough and critical examination of time and efficiency using case study methodology will help illuminate and evaluate the historical, political, ideological, cultural, and economic influences on pharmacy education.

Chapter two: Literature review

The literature review is divided into five sections and concludes with my research questions. The problems I identify with efficiency and neoliberalism in education are followed by an exploration into the hidden curriculum and the nature of knowledge in pharmacy education. Section three provides a discussion of the history and influences on pharmacy curriculum and pedagogy. Section four specifically focuses on how time and efficiency is discussed in recent pharmacy education literature. Lastly, section five provides the theoretical framework for my study.

Section one: The "cult of efficiency" and neoliberalism in education

Efficiency in education

Callahan (1962) used the phrase "cult of efficiency" to describe the changing face of school in the United States between 1910 and the 1930s in response to Taylorism and the scientific management of education. Taylorism began as a way to look at business and workplace management that emphasized efficiency, production, and the measurement of outcomes. This crept its way into education and reflected a change in what was expected of schools, teachers, and students. For instance, Bobbitt (1918) developed a method of creating curriculum reminiscent of Taylorism, where he tried to outline all the tasks associated with a specific job and translate them into curriculum objectives. For example, he observed a secretary's day to day work and noted that secretaries perform 871 tasks. From that, he argued that each task should be reflected in the curriculum for secretary education as distinct objectives. He called this a scientific

method of curriculum design, which was part of the social efficiency movement in education he championed following the industrial revolution (Schiro, 2013). With this design, schools were deemed as pathways to economic function, a way in which to educate the increasing population to be productive members of the workforce. Trujillo (2014) explained, "monitoring, testing, and competition soon permeated public education, and the practice of hiring 'efficiency experts' to collect data on schools' operations, evaluate performance, and make recommendations to maximize productivity became commonplace" (p. 209).

Years later, this approach was considered problematic and misaligned with pedagogical and learning theories. For example, Eisner (1967, 1976/2005a) suggested several consequences to adopting a scientific approach to teaching, learning, and curriculum design in schools. First, it led to oversimplification of the complexity of schooling by reduction or discounting of elements deemed inconsequential to the objectives of school. For example, the variability of students and teachers was considered unimportant in comparison to student achievement as an average grade or score. The result of this scientific approach was an impetus to look for general tendencies in schooling—a predictability that could be used in other schools. Relatedly, there was a focus on the objectives, which he claimed, "are things that are always out of reach" and because an objective exists in the future, it is easy to "sacrifice the present in order to achieve it" (Eisner, 1976/2005a, p. 38). In other words, it was easy to forget about the students in front of you when only looking at the goal. The emphasis on objectives led to the objectification of knowledge, which required knowledge to be empirical and

quantifiable. Educators would start to discuss subjects rather than students, interventions rather than teaching, and competencies rather than aspirations. Greene (1995) concurred when referring to the loss of creativity and student initiative as detrimental to education. She argued,

> treating the world as predefined and given, as simply *there*, is quite separate and different from applying an initiating, constructing mind or consciousness to the world. When habit swathes everything, one day follows another identical day and predictability swallows any hint of an opening possibility. (italics in original, p. 23)

Once quantifiable objectives were created, then testing and standardization was inevitable. Eisner (1976/2005a) explained, "The standardized test is standard; it is the same for all students. It not only standardizes the tasks students will confront, it standardizes the goals against which they shall be judged. These tests, de facto, become the goals" (p. 39). B. Davis et al. (2015) conceptualized these periods of educational thinking and systems as the standardized education moment, when education was focused on technical skill, encompassing "understandings of cause-effect events, logical implications, procedural knowledge, everyday know-how, and practiced skills" (p. 16). They called this episteme knowledge, referring to surface knowledge in a skill-based world and associated it with rationalism and empiricism. But importantly, it was a departure from an older tradition of knowledge and education, which they called gnosis. Gnosis knowledge is concerned with a deep and theoretical knowledge of the world, and predated Taylorism and the scientific method of curriculum development (B. Davis et al., 2008). Gnosis-based education was typically explored through the arts, where students think and learn about the meaning of existence and their roles in society. Standardization

was not part of teaching gnosis knowledge, but it was expected and necessary in episteme knowledge.

Standardized education was a teacher-centred approach, where teachers provided "uniform instruction geared toward a pre-stated level of expertise" (B. Davis et al., 2015, p. 52) while students were passive recipients of knowledge. Giroux (1997) had a critical lens to highly structured curriculum and suggested that this model of curriculum keeps students from being able to "generate their own meanings, to capitalize on their own cultural capital, or to participate in evaluating their own classroom experiences" (p. 25). He added that such objectivism supports hierarchy and control, focused on efficiency. Under the cult of efficiency, learning is no longer about the student but rather, about what the student produces. And the natural way to measure production, as Greene (1995) claimed, was "standards, assessment, outcomes, and achievement: these concepts are the currency of educational discussion today" (p. 9). Thus, one problem with efficiency in education resides in the objectification of knowledge, teaching, and learning.

From efficiency to neoliberalism

Curriculum, teaching, and student learning ventures into the realm of the economy as educators and governments start discussing efficiency of educational institutions. Efficiency in higher education has been defined in economic terms that accentuate the input and output of an educational system using the least amount of resources (Marginson, 1991; Sadlak, 1978). Johnes et al. (2017) defined in education, "efficient use of resources (be that financial or the innate ability of students) occurs when the observed outputs from education (such as test results or value added) are produced at

the lowest level of resource" (p. 331). Writing in higher education specifically, Hubball et al. (2013) described curriculum efficiency using economic language where,

> constructs of *curriculum efficiency* might include strategic alignment of curriculum learning experiences with intended outcomes; maximal use of available budget and other resources to enhance student learning; optimal instructor/coordinator/leadership-to-costs ratio; strategic use of learning technologies; and sustainability, including the ability to attract high quality students and minimize attrition. (italics in original, pp. 44-45)

Efficiency, when framed from a financial perspective, is a reality with which administrators contend because there are finite resources for faculty, staff, and space. Taking this position, Boyd (2004) argued that efficiency has a role to play in educational improvement. He wrote "education and efficiency are not antithetical" because "school leaders are responsible for both educational leadership and stewardship of their organization's resources" (p. 161). He also noted that whether one likes it or not, there is a link between economy and education. However, economically grounded perspectives of efficiency in schools affect not just operations, but also teaching and learning. When the outcomes of education are grounded in equipping students with knowledge for work, it is not difficult to develop a view that students are products that keep the economic engine running smoothly. Execution of this view reduces "education to a formula of technical efficiency: producing the correct number of graduates with both the right blend of skills and a commitment to the given social system and hierarchy" and neoliberalism is an ideology with responsibility for its perpetuation (Welch, 1998, p. 170).

Neoliberalism emphasizes the free-market and the pursuit of individual gain and goals. As an economic theory it is based on "(a) the necessity of free market (in which we work and consume); (b) individualism; and (c) the pursuit of narrow self-interest rather

than mutual interest, with the assumption that these three tenets will lead to social good" (McGregor, 2001, p. 84). The assumption that the economy and society will be better has led to a neoliberal society that reaches into multiple facets of life, especially education (Servage, 2009). For higher education, it has created systems and programs increasingly geared towards preparing students for productivity and the workplace. Apple (2006) argued that "a large portion of current reform initiatives are justified by claims such as the need to tighten the connections between education and the wider project of 'meeting the needs of the economy'" (p. 23). And in this form, "education is represented as an input–output system which can be reduced to an economic production function" which has core tenets of "clearly defined objectives…and a results orientation" (Olssen & Peters, 2005, p. 324). Efficiency is an economic concept in neoliberalism, representing a relationship between the inputs and outputs, and affecting school policies and management (Cannizzo, 2018; De Lissovoy, 2013; Lorenz, 2012). Critical theorists argued that neoliberal ideology only serves those with power and perpetuates inequities inherent in society (Apple, 2019; Freire, 1970; Giroux, 1997; Kincheloe, 2008). These prominent theorists have labelled neoliberalism in education problematic because it does not allow for understanding and breaking down power relations in society, and is not conducive to critical pedagogy, which Giroux (1997) explained with respect to higher education,

> As society is defined through the culture and values of neoliberalism, the relationship between a critical education, public morality, and civic responsibility as conditions for creating thoughtful and engaged citizens are sacrificed all too willingly to the interest of financial capital and the logic of profit-making. (p. 427)

Efficiency and neoliberalism as a foundation of business practices can easily extend to pharmacy because of the profession's history and current practice. Pharmacies or apothecaries as they were called in medieval times, were part of the merchant industry, and pharmacists or apothecaries, were traders and grocers (Beales & Austin, 2006). Today, the community drug store is the hallmark of pharmacy practice, with over 70% of pharmacists working within them (Canadian Pharmacists Association, 2022). Pharmacy curriculum contains elements of pharmacy business, and they are part of educational goals, for example, the Center for the Advancement of Pharmacy Education in the United States has an outcome for students to, "Identify and utilize human, financial, and physical resources to optimize the medication use system" (Medina et al., 2013, p. 6). Therefore, efficiency and neoliberalism are interesting areas of study in pharmacy education.

Neoliberalism in pharmacy education

Pharmacy education has arguably strong connections to neoliberal principles due to the profession's business origins and 20th century pharmacy education fulfilling economic expectations of young graduates. These expectations were "part of the ideology in our culture, and prevailing full employment of pharmacists encourages the optimism" (McCormack, 1956, p. 310). Graduate employment continues to be a focus in pharmacy education literature (e.g., Bzowyckyj et al., 2021; Gregory & Austin, 2014; Traulsen & Druedahl, 2018) and it continues to be accepted that a purpose of pharmacy education is to prepare students for the workplace. For example, Austin and Ensom (2008) stated that one of the challenges in Canadian pharmacy education is "developing a fit-for-purpose workforce" (p. 8). Fejzic and Barker (2015) similarly suggested, "Pharmacy educators

and professional bodies have the responsibility to inform and build the work readiness capacity of pharmacy students and develop graduate attributes that can positively influence their employability" (p. 80). Too, Frederick et al. (2021) claimed,

> It is time for educators to look at these teaching modalities through a different lens and leverage their use to leadership and management topics in order to adequately convey to students the importance and relevance of these skills and to best prepare them for success as future practitioners in an increasingly competitive pharmacist job market. (p. 200)

Historically, strengthening the connection between school and the workplace was encouraged and achieved through standardization. For example, the rationale for national licensing exams to improve the workforce mobility across provinces established The Pharmacy Examining Board of Canada in 1963 (Association of Faculties of Pharmacy of Canada, 2001). More recently, there has been an abundance of literature emphasizing workplace skills that pharmacy students should attain before entering practice (e.g., Augustine et al., 2018; Kairuz et al., 2010; O'Sullivan et al., 2020; Thompson et al., 2012). One example is communication skills, which O'Brien et al. (2017) concluded "might make the difference in whether graduates are competitive in the job market" (p. 97). In addition, there have been efforts and commentary suggesting how to get graduates efficiently into the workplace (Davies et al., 2013; Mattingly II, 2018; Mospan, 2017; Waite et al., 2018; Zeitoun et al., 2014), such as providing a career skills workshop within a pharmacy program (Medina et al., 2018) or linkages to industry (Gatwood et al., 2018). For example, Slavcev et al. (2016) highlighted a positive relationship with business leaders and their award to a student competition as "generous sponsorship" with thought that the external people "brought expertise, insight, and value to the process of

defining and designing the curriculum at the start of programming" (p. 679). Interestingly, these influences were not portrayed as problematic by proponents of having pharmacy business leaders as stakeholders in developing curriculum. Questions about the purpose of pharmacy education arise from this literature because business leaders may be more concerned about maintaining a pharmacist workforce with graduates who fit into an economic model of pharmacy practice focused on pharmacy profit. Their input into curriculum design may influence schools to adopt a neoliberal agenda. In pharmacy practice, the business agenda is constrained by professional regulations such as codes of ethics centred around patient care, which are intended to ensure ethical business practices (National Association of Pharmacy Regulatory Authorities, 2014). However, this may be questioned in pharmacy education institutions if business stakeholders are routinely invited to consult on curriculum.

In addition to the above examples focusing on skills of graduates, there is more literature advocating for the use of outcomes and standards measuring student workplace readiness (e.g., Croft et al., 2019; Sealy et al., 2013; Vlasses et al., 2013). For example, Stupans et al. (2016) wrote,

> Outcomes help faculty and other stakeholders such as employers to have a common understanding about the specific skills and knowledge that graduates should have mastered as a result of their learning experiences and promote a shared and common understanding of the expectations associated with typical qualifications. (pp. 1-2)

Therefore, returning to the connection of neoliberalism and a standardized and efficiency model of education (B. Davis et al., 2015), perhaps pharmacy students achieving certain objectives are analogous to what Greene (1995) reasoned about school-aged children,

> Much of the time, they are spoken of as if they were raw materials to be shaped to market demand. They belong, as it were, to a constructed category: beings who are to be shaped (benevolently and efficiently) for uses others will define. (p. 33)

However, pharmacy is not unique within healthcare education because policies that connect health professional education to the workplace are commonplace (e.g., George et al., 2014; Tomblin Murphy et al., 2019; World Health Organization, 2013). Within the Canadian context of an aging population that will require healthcare, it is deemed important for government to be able to care for its citizens, and pharmacy is part of this. The result has been in line with neoliberal policy as a "renewed focus on accurate delineation of the capabilities required by health professionals" that focuses on precise competencies that can be at odds with the human aspects of healthcare (Rogers & Forman, 2013, p. 43). Some research in pharmacy has been done within the context of neoliberalism, such as Atkin et al. (2021) who studied problems pharmacists face in healthcare reforms in the United Kingdom. They found that pharmacists struggled with expectations from government and pharmacy businesses to provide more professional services because of existing workload, such that there was a "dissonance between an assumed professional ideal and its practical application" (p. 348). Another example is a critique of a pharmacy skills discourse in Malawi within the adoption of Western neoliberalism (Lim et al., 2012). They explained that the connections between the state, university, and job market were unlike those in Western nations, so professionalization of pharmacists and pharmacy technicians would not solve their population's pharmaceutical healthcare needs. In contrast, de Sousa Lopes et al. (2019) reported on quality indicators of pharmacy education in Brazil, and found that private schools were scoring lower in

quality than public schools. However, they accepted and rationalized that the country needed to adopt neoliberal policies, including outcome and performance measures. They wrote, "it was necessary to meet the political demands to reproduce and improve a model of capitalist development and to foster openness to the privatization of education" (p. 295). Yet, in the corpus of pharmacy education literature, I found limited discussion on neoliberalism and certainly not from a Canadian context or critical theory framework.

In the first section of my literature review, I described the cult of efficiency and critical perspectives on neoliberalism in education. The question it raises is how efficiency and neoliberalism are explicitly and implicitly established in pharmacy education, which leads to the next part of this chapter, on the hidden curriculum and the nature of knowledge.

Section two: The hidden curriculum and the nature of knowledge

The hidden curriculum in pharmacy education is an important consideration for educators and researchers because of its relevance to how students learn and understand what it means to be a pharmacist. One perspective from Hafferty and Hafler (2011) sees the hidden curriculum as an unspoken combination of the profession's knowledge, attitudes, and beliefs that students experience in their educational journey and future practice. They defined the hidden curriculum from this socio-cultural view in medical education, as the "cultural mores that are transmitted, but not openly acknowledged, through formal and informal education practices" (p. 17). Formal educational practices encompass the explicit curriculum, written, presented, and experienced by students. In contrast, the informal curriculum as Gofton and Regehr (2006) described, is opportunistic

learning when the place and time permit, and can be positively, "the mechanism by which the wisdom of clinical practice is imparted and a trainee's abstract knowledge and skills are commuted to practical clinical functionality" (p. 20). The hidden curriculum exists in formal and informal learning, and the explicit and implicit curriculum, and therefore addressing it requires analysis of all these fronts.

Hidden curriculum in pharmacy education

Many discussions of hidden curriculum in pharmacy education focus on the informal curriculum and particularly how the workplace can undermine learning professional responsibilities. For example, F. Bradley et al. (2011) studied how pharmacy interns learn about patient safety, finding that listening to practitioners talk and personally witnessing patient safety issues in the workplace were memorable learning experiences during their internship year post-graduation, more so than the formal curriculum. They mentioned that "through these experiences the students gained exposure to health care systems and organizations, customs and rituals, and 'taken for granted' aspects of the profession" (p. 5), and labeled them as part of the hidden curriculum. Another study by Vosper and Hignett (2018) found that patient safety was mostly taught through informal and hidden curriculum, which they argued was problematic because learning how to prevent harm due to medication errors should not be left to chance. They argued that a pharmacist's role in ensuring the safe use of medications requires explicit teaching. In both studies, the suggestion was to bring the hidden curriculum into focus by adding patient safety education into the formal curriculum.

The pharmacy workplace as a source for hidden curriculum is a target for other problems identified with pharmacy education. Siracuse et al. (2008) asked students about their work experience and perceptions of the profession, recognizing that students spent much of their time in the drug dispensing or distribution side of pharmacy practice, whereby, a consequence was "the proportion of time they spend doing patient care activities is much less than they would like" (p. 7). Van Huyssteen and Bheekie (2017) presented a similar story, where students are unable to perform the patient care activities in the workplace deemed important by formal education. Here, the bigger picture is the busyness of pharmacy practice and time as a commodity that needs to be negotiated with the pharmacist, coworkers, and patients. They claimed, "the theme of time was underpinned by the workload pressure of the service learning environment and emerged as a most important resource in this pharmacy practice setting" (p. 192). Such disconnects between pharmacy education and the workplace have been described by researchers since the formal pharmacy curriculum was established (Hornosty, 1989). McCormack (1956) explained how students, "felt that there were tricks of the trade not taught in schools, and to this extent they were skeptical of the 'impractical' professional emphasis of their formal training" (p. 312). This has led to recommendations on formal expansion of experiential education in curriculum (Frankel et al., 2014) which aimed to bridge school and practice.

Other analyses of hidden curriculum in pharmacy have looked at professionalism, where the hidden curriculum results in unprofessional behaviour. For example, Butler et al. (2021) described a "possible link between the [hidden curriculum] and pharmacy

resident cynicism and burnout" (p. 926) as a result of witnessing unprofessional and unethical behaviours in practice sites. Schafheutle et al. (2013) recommended explicitly teaching professionalism as a way to counter the effect of the hidden curriculum in promoting unprofessional behaviours. They suggested creating overlap between the intended, delivered, and learned curriculum when teaching professionalism. A few suggestions were provided, such as "setting high standards, 'living' these standards consistently in the school, having strong role models, and establishing clear responsibilities and consequences for students" (p. 6). Meanwhile, Hoffman et al. (2017) suggested mandating structured co-curricular activities for students as a way to develop professionalism. They claimed,

> it was recognized that a more proactive approach was needed to develop student pharmacist professionalism rather than simply relying on a "hidden curriculum" and simply attending lectures/professional meetings. Such a curriculum would need to be guided by a set of goals and objectives, and a level of accountability. (p. 399)

In these cases, addressing the hidden curriculum in pharmacy education seemed to focus on formalizing awareness and learning directed at students or faculty members rather than a broader approach that includes educational institutions and structures. It is reminiscent of a standardized educational perspective that sees the hidden curriculum influencing the student—often negatively and with students requiring protection from its harms. It places the student or faculty member as a passive recipient of education, rather than an active participant interacting with the social environment. Formalizing learning ties into the outcome-based and efficiency education model as described in part one of this literature review. In contrast, Olson et al. (2022) suggested a more cooperative

identification of hidden curriculum, “best accomplished by faculty empowering students to question and share when they receive conflicting messages from curricular content or experiences” (p. 148).

However, the workplace or practice sites are not the only places for finding the hidden curriculum. It can be found within schools as well, and over a decade ago Gardner (2010) recommended for pharmacy education that “it would be a productive exercise for faculty members within all of our colleges to examine their own personal curricula for hidden messages” (p. 1). For example, Olson et al. (2022) suggested asking the important questions of what is explicitly taught, by whom and how much, which “reveals underlying messages sent to students about what is considered most important, how they should allocate their time, and what should form the basis of their professional identity” (p. 148). Taking Gardner’s advice, I conducted a study on pharmacy imagery worn by students and revealed hidden messages internalized by students and faculty on what it means to be a care provider in pharmacy (Chong & FitzPatrick, 2022). In my study, student and faculty thoughts about the imagery focused on drug expertise and drug provision despite an explicit curriculum grounded in patient care. It highlighted how the hidden curriculum in pharmacy education exists in routine, internal practices of schools.

However, these internal aspects of the hidden curriculum continue to be underexplored in pharmacy education literature. In medical education, there is understanding that the hidden curriculum is perpetuated by academia and institutions, as Martimianakis et al. (2015) reflected,

> Less attention has been paid to structural- and organizational-based reform (meso- and microlevel) to dilute or alter aspects of the [hidden curriculum] through

> addressing and reshaping institutional culture and nested hierarchical boundaries, or providing an institutional atmosphere/climate for humanism to flourish. (p. S10)

And Mahood (2011) concluded, "Individual change also requires organizational change in institutional policies supporting the hidden curriculum. Resource allocation reflects an institution's true values" (p. 984). From this literature, it seems that current initiatives try to teach or fix students and faculty, rather than trying to understand how the hidden curriculum comes to be and to prevent its perpetuation. Perhaps bringing an alternative perspective on the hidden curriculum could offer a better solution—one from critical theory.

Critical theory and the nature of knowledge

Apple (2019) wrote of curriculum designers, "there must also be a continual attempt to bring to a conscious level and act against those hidden epistemological and ideological assumptions that help to structure the decisions they make, the environments they design, and the traditions they select" (p. 105) lest the ideologies continue to perpetuate in schools. Giroux (1978) challenged the hidden curriculum and focused on the structural elements in schools that shape student beliefs. He listed structures in traditional classrooms and argued for their elimination, including,

> rigid time schedules, unnecessary delays and denials, tracking and social sorting, hierarchical relations of dominance and subordination, the correspondence between evaluation and the arbitrary exercise of teaching power, and the fragmented, isolated, and competitive interpersonal dynamics of the educational experience. (p. 149)

Within these structures, rewards and punishments are revealed as Doyle and Singh (2006) explained, "There is little doubt that schools legitimize the dominate cultural capital

through the selection of given beliefs and skills. Those students who best accept and replicate the dominant curricula are the ones most affirmed" (p. 38). Apple's (2012, 2019) critiques went further than Hafferty and Hafler's (2011) definition of hidden curriculum as he viewed it functioning insidiously to perpetuate ideologies and hegemonies in society.

Perhaps a direct example in healthcare education is the practice of "pimping" (Brancati, 1989), which is a clinical teaching through questioning method often used in medical education involving clinical staff asking one or more students on the spot questions. Participating students are rewarded by praise or acknowledgement for answering correctly. Yet despite negative connotations of the word and potential for student embarrassment, such practices are informal and common, as Williams et al. (2018) found in a survey of pharmacy students and faculty. They explained how the method "may be used by a teacher to facilitate learning for their students but might also be used to assert power and reinforce hierarchy" (p. 357). Although they did not use the term, the hidden curriculum is highlighted in their survey by how many faculty use this technique and many faculty and students accept it without questioning the practice.

In pharmacy education literature, the hidden curriculum hinges on what is appropriate, which as previously described, are concepts derived from educational goals and objectives. These goals and objectives form what students are expected to learn and is considered knowledge. Apple (1992) referred to this as legitimate knowledge, which schools propagate. Similarly, Greene (1995) stated that "the dominant voices are still those of the officials who assume the objective worth of certain kinds of knowledge, who

take for granted that the schools' main mission is to meet national economic and technical needs" (p. 9). From a critical view; however, what is considered appropriate should be open to challenges. Apple (2019) asserted, "The guiding principles that we use to plan, order, and evaluate our activity—conceptions of achievement, of success and failure, of good and bad students—are social and economic constructs" (p.134). These ideologies may be tacitly accepted by educators, so any inquiry into pedagogy must also look at "the wider patterning of social and economic relationships in the social structure of which he or she and the school itself are a part" (p. 59). He explained, "Schools do not only control people; they also help control meaning. Since they preserve and distribute what is perceived to be 'legitimate knowledge'—the knowledge that 'we all must have,' schools confer cultural legitimacy on the knowledge of specific groups" (Apple, 2019, p. 65).

Pharmacy is a regulated healthcare profession in Canada possessing a specialized and exclusive body of knowledge and scientific method of inquiry that grants it status in society (Evetts, 2014; Freidson, 2001). However, this body of knowledge is not static and is the result of specific choices and expectations by members of the profession, which means that what pharmacist educators display and emphasize influences what pharmacy students consider knowledge. Giroux (1997) suggested that schools follow a culture of positivism leading to "hidden assumptions that underlie the nature of knowledge they use and the pedagogical practices they implement" (p. 24). Apple (2019) similarly stated, "in our schools, scientific work is tacitly always linked with accepted standards of validity and is seen (and thought) as always subject to empirical verification with no outside

influences, either personal or political" (p. 91). Instead, Apple (2019) argued that this knowledge is assumed and the structures should be questioned because they are influenced by economic and political forces.

Interrogating the hidden curriculum

In pharmacy education, turning the workplaces into sites of formal curriculum and strengthening the connections between work and school may perpetuate the hidden curriculum in what Apple (2012) described as reproduction. This mechanism characterizes a correspondence theory of the hidden curriculum, which Apple (2012) explained as how "we see schools as a mirror of society, especially in the school's hidden curriculum" (p. 132). And it can be helpful to think about how this theory relates to pharmacy education if students are expected to take what they learn from school and apply it to their future workplaces. It follows that the school's function is to reproduce as accurately and effectively as possible, the realities of the labour market and the provision of medications. For example, Muzzin (2001) wrote,

> although the pharmaceutical care discourse has been variously espoused as a "continuation" of prior curricular practices or, alternatively, as a new professional practice that "puts the patient at the center of drug therapy," the nuts and bolts of the curriculum remain the molecular biochemistry that is based on the production and sale of synthetic drugs as the central aspect of health. (p. 142)

The correspondence theory may be sufficient to visualize the hidden curriculum but may not include how individuals react and participate in it. Therefore, Giroux (1983) argued that the correspondence theory situated in reproduction was missing an element of resistance from the people in the system. He suggested that an opposing force called transformation was also part of the hidden curriculum. Margolis et al. (2001) explained

that the addition of transformation to the model, "postulates that hidden curricula is plural and that contradictions open spaces for students and teachers to resist mechanisms of social control and domination and to create alternative cultural forms" (p. 15). Apple (2012) also claimed the correspondence theory was an incomplete understanding of the hidden curriculum because it discounts the agency of individuals who hold some power of resistance. He focused on conflict as the mechanism of resistance and suggested that we cannot understand schools without looking at conflict. Apple (2019) argued,

> the explicit focusing on conflict as a legitimate category of conceptualization and as a valid and essential dimension of collective life could enable the development by students of a more viable and potent political and intellectual perspective from which to perceive their relation to existing economic and political institutions. (p. 101)

Using a model of reproduction and transformation, researchers could address the hidden curriculum differently instead of the inadequate and common way of formalizing and objectifying learning seen in the pharmacy education literature. Another benefit is opening research to interrogating structures that try to limit conflict because these structures serve to perpetuate the hidden curriculum. For example, it would allow researchers to consider that the standardization of curriculum and development of national educational outcomes by stakeholder consensus are ways to eliminate conflict. Such structures would require questioning and critical interrogation. Lastly, this model creates a space for action by student and faculty agents in schools both individually and collectively. Since I am a part of pharmacy education in the school, the model provided an avenue and opportunity to question educational practices through my research.

In this section, I reviewed research and conceptions of the hidden curriculum and presented an alternative way to explore and address it from critical theory that questions the nature of knowledge and the large sociocultural structures in pharmacy education. Using these concepts, we can challenge the problems with neoliberalism and efficiency in pharmacy education. Unfortunately, "the language of learning tends to be apolitical and ahistorical, thus hiding the complex nexus of political and economic power and resources that lies behind a considerable amount of curriculum organization and selection" (Apple, 2019, p. 29). Therefore, we have an additional problem to tackle—the political, historical, and economic controls that define what is important for pharmacy students to learn and faculty to teach. In the next part, I will review the history and changes of pharmacy education that will shed some light on the origins and influences of these controls.

Section three: History and influences on pharmacy education

Pharmacy education literature often focuses on descriptions and evaluation of programs and proposals intended to change these programs to achieve determined competencies or outcomes (e.g., Hubball & Burt, 2007; Noble et al., 2011; Wright et al., 2018). In contrast, introspective and critical analyses of pharmacy education are underrepresented. Critically studying education requires bringing in the historical, ideological, cultural, economic, and political influences that shape it. This section takes a historical journey through pharmacy education to describe these influences.

History of pharmacy education

Historically, the profession of pharmacy has been intricately connected with its education. Beginning in medieval times, pharmacy education was organized as an

apprenticeship model where pharmacists took on young apprentices to learn the trade (Kremers, 1976). In Canada, this continued into the establishment of professional societies or colleges of pharmacy in the late 1800s. Formal pharmacy education followed the political change and legal status of the profession. These provincial Pharmacy Acts stipulated who could be designated as a pharmacist and what controlled acts they were allowed to perform (e.g., Newfoundland and Labrador Pharmacy Act, 2012). By doing so, the laws also restricted the practice of pharmacy to pharmacists only and solidified professional status. The legislation created power for a self-governing body, for example, the Newfoundland and Labrador Pharmacy Board (NLPB), to control what educational requirements were necessary for licensure and practice. And since this was self-regulation, these requirements were organized by pharmacists, for pharmacists. Beales and Austin (2006) and others (e.g., Association of Faculties of Pharmacy of Canada, 2001) suggested that the creation of regulatory bodies, professional organizations, and the pharmacy laws legitimatized the profession both in the public eye and in the healthcare community. Pedagogically, these early pharmacy colleges would establish documents like the Ontario "Curriculum of Study for Apprentices" (Muzzin & Hornosty, 1994, p. 77). They followed the pedagogy of Normal schools, which were the early iterations of teacher colleges. The main method of teaching was by lecturing, with the professor holding "pedagogical authority" (p. 79) and the students as passive recipients of knowledge. This was also the beginning of standardized examinations that students needed to pass in order to practise. McCormack (1956) argued, "The movement for higher and more uniform educational standards for pharmacists began at the turn of the

century and was stimulated in part by increasing knowledge of scientific medicine and therapeutic agents" (p. 309). Beales and Austin (2006) also explained how the Pharmacy Act "promoted standardized licensing and educational programmes" (p. 24).

Though pharmacy and pharmacist are the words mostly used to identify the profession today, this has evolved over time from other terms such as apothecary, chemist, and druggist (Crellin, 2013; Kremers, 1976). The terms reflected the various roles, work, tasks, and knowledge ascribed to the profession. Kronus (1975) commented that due to technological and social changes to compounding and dispensing medications in the 1940s, pharmacists lost professional status as makers of drugs. From this, Hornosty (1989) argued that the subsequent impact on pharmacy education "led to the early introduction in the socialization process of a highly specific idealized alternative to existing pharmacy practice" (p.133) within the school. This was exemplified by a new understanding of pharmacy practice at a time when university degree programs took more responsibility for pharmacy education while the colleges regulated practice (Association of Faculties of Pharmacy of Canada, 2001). Curriculum development became more of an academic endeavour, leading to pharmaceutical care as the explicit knowledge and philosophy of practice (Hepler & Strand, 1990; Medina et al., 2013; Perrier et al., 1995). Pharmaceutical care, or the more recent terminology of medication treatment management was defined as "a distinct service or group of services that optimize therapeutic outcomes for individual patients" (Bluml, 2005, p. 572). Pharmaceutical care shaped, ideologically, what it meant to be a pharmacist and professional today. It shaped the discipline of pharmacy that students are expected to enter and learn. Giroux (1997)

said that "ideology can be viewed as a set of representations produced and inscribed in human consciousness and behavior, in discourse, and in lived experiences" (p. 74). The definition of a pharmacist as a professional followed Hepler's (1987) and Strand et al.'s (1987) suggestions of a clinical role for pharmacists and moved the focus of the profession from product to patient (Austin & Ensom, 2008; Droege & Baldwin, 2005). This ideological shift was to be reflected in curriculum, resulting in the linking of professionalism and professional responsibilities to specific educational objectives such as those recommended by Newton (1991) and implemented by Perrier et al. (1995). However, it is important to note that the ideology of patient-centred practice could differ. Burrows et al. (2020) studied conceptions of patient-centredness and their findings "challenge the assumption that there is shared meaning of what constitutes effective patient-centred practice" (p. 513).

An emphasis on professionalism grounded in pharmaceutical care became an important part of the student experience. The socialization process in schools developing students to be professionals highlights cultural influences on pharmacy education and is closely connected to the historical changes and ideologies. For example, professionalism in pharmacy comes from educators who often have a role-modelling influence because it is pharmacists who teach pharmacy students (Dall'Alba, 2009; Noble et al., 2019). Noble et al. (2014) found that "students believed they were guided toward an idealized presentation of being a pharmacist by some of the academic staff (over 40%) and through some of the assessment processes, such as oral counselling examinations (more than 80%)" (p. 331). Yet Droege and Baldwin (2005) identified a problem where "it appears

that pharmacy education on the whole has not yet been effective in socializing pharmacy students with the attitudes and beliefs needed to bring about the paradigm shift from product-orientation to patient-orientation" (p. 7). Rosenthal et al. (2010) suggested that pharmacists themselves were barriers to advancing practice and embracing a larger role in the healthcare system and argued for a conversation around pharmacy culture and education to help understand why. Notably, this was reiterated seven years later with pharmacy culture still an academic and professional area that lacked research (Rosenthal et al., 2017). However, pharmacy began as a trade so historically the selling of product whether it was spices or drugs, was the core of a pharmacist's work (Beales & Austin, 2006). The product-oriented versus patient-oriented practice debate presented opinions of business and what that meant to the profession.

Pharmacy business and pharmacy education

The economic influences in the form of business make pharmacy education unlike other health profession programs because of an explicit avenue of pharmacy work and business that is an option for graduates and a clear connection to the pharmaceutical industry (Bird et al., 2012; Campagna et al., 2011; Chappell & Barnes, 1984). These connections can be found in pharmacy education literature. For example, Augustine et al. (2018) conducted focus groups with experiential education preceptors to establish the business and management skills preceptors thought were important for graduates. They concluded that these skills, such as communication, time management, decision-making, and understanding business reports, should be taught and assessed in pharmacy education. Even Rhoney et al.'s (2021) discussion on academic, social, technological,

economic, and political forces on pharmacy educational change used a business model and based its purpose on how "Pharmacy education has consistently struggled with designing and delivering a curriculum that prepares gradates for the 'job to be done' in an efficient, cost-effective manner" (p. 640). Though this thesis is not looking at organizational theory, pharmacy education literature displays influences from the business world. For example, John et al. (2017) and Arthur et al. (2018) borrowed from lean management principles in the design of a pharmacy residency program—a system and philosophy originally developed by a corporation for efficient manufacturing and later used in business management theory (Womack & Jones, 1994). While the ethics of pharmacy business relationships with education are not often discussed (e.g., Augustine et al., 2018; Gatwood et al., 2018; Rollins et al., 2012), similar influences from pharmaceutical industry on pharmacy practice are questioned as they potentially lead to biases in pharmacist and organization decision making (Piascik et al., 2007; Robertson et al., 2010). While these conversations still occur today, it seems that regardless of the ideological intentions of pharmacy programs, pharmacists continue to emphasize retailing and dispensing as their core functions (Elvey et al., 2013; Mossialos et al., 2015; Rosenthal et al., 2011).

More recently, pharmacy educators have overtly connected to multiple interest groups within and outside of the profession including pharmacy businesses who influence curriculum and pedagogy. These are typically referred to as stakeholders. For example, Pojskic et al. (2014) described the different perspectives of government, pharmacy associations, and medical associations on the incorporation of pharmacist prescribing into

the scope of practice, which would impact whether this knowledge would be included in curriculum. A similar situation occurred for regulation of pharmacy technicians, although this time, within the pharmacy profession (e.g., Jetha et al., 2021; Zellmer et al., 2017). For example, Renfro et al., (2020) interviewed pharmacy employers on the types of knowledge, skills, and attitudes they expected from pharmacy technicians to ensure efficiency of pharmacy operations. Too, the advocacy agenda by professional organizations such as the Pharmacists Association of Newfoundland and Labrador (PANL) strove for more pharmacy services and reimbursement of those services in society as indicated in their mission to "support the professional and economic advancement of pharmacists through unity, advocacy and education" (Pharmacists' Association of Newfoundland and Labrador, 2022). Although stakeholders may not understand curriculum and pedagogy, they were often consulted, and their input was considered critical for pharmacy education (Koster et al., 2017; Turner, 2018). For example, Aly et al. (2021) generated a series of education, training, and assessment needs through questionnaires sent to stakeholders on the provision of patient care services for minor ailments. Developing consensus documents on educational needs through consultations with various individuals and organizations is commonplace in pharmacy education (e.g., O'Sullivan & Sy, 2017; Sealy et al., 2013; Slavcev et al., 2013; Wadelin et al., 2017). These documents are often advocated as tools and guides for pharmacy educators to design curriculum.

Organizations influencing pharmacy education and practice

Pharmacy education in Canada is highly impacted by external organizations, which guide curriculum and provide educational standards for teaching and learning. Two main organizations are the Association of Faculties of Pharmacy of Canada (AFPC) and The Canadian Council for Accreditation of Pharmacy Programs (CCAPP).

AFPC was founded in 1945 and is a national organization with members and board representatives from all ten pharmacy schools in Canada. Their guiding mission was, "Advancing pharmacy education and research in Canada" with a vision of "Better health for all Canadians through excellence in academic pharmacy" (Association of Faculties of Pharmacy of Canada, 2020). One of their significant contributions to pharmacy education was the creation of educational outcomes for pharmacy graduates based on agreed upon pharmacist roles. These roles include care provider, communicator, collaborator, leader-manager, scholar, health advocate, and professional. In the 2017 edition of the educational outcomes, AFPC announced a shift in the conceptual framework which reorganized the 2010 pharmacist roles and placed care provider at the centre of all other roles. They stated, "In the 2017 version, the relationship of the roles to one another is based on provision of patient care (Care Provider), which is at the heart (core) of the discipline of pharmacy in Canada" (Association of Faculties of Pharmacy of Canada, 2017, p. 2). Another change was placing all the roles under an umbrella of the professional role where it "is not one among many roles; rather it is the overarching ethos of the discipline of pharmacy—the spirit that guides graduates' practice and their approach to practice regardless of the type of practice in the field of pharmacy" (p. 5).

Therefore, in pharmacy education outcomes, all other roles are dependent on the care provider and professional roles. Each role is then subdivided into key competencies and enabling competencies that further specify and define the outcome.

CCAPP is also a national organization with members and board representatives from other organizations such as AFPC, the Canadian Pharmacists Association, and The Pharmacy Examining Board of Canada (PEBC). This leads to close relationships between pharmacy schools and faculty with pharmacy advocacy groups and licensing bodies. Their main roles are to develop accreditation standards and assess pharmacy and pharmacy technician programs. The standards include specifying minimum duration of programs, time allotted for experiential education, and guidance on the content to be taught. Their stated aim of accreditation is quality assurance and program improvement. The process of accreditation first requires schools to self-evaluate and show evidence of compliance with standards. Then evaluators visit schools to determine whether or not standards have been met and if the schools can be granted accreditation (The Canadian Council for Accreditation of Pharmacy Programs, 2020). This is a high stakes event for schools because programs must be accredited in order to graduate students who would be permitted to take the licensure examinations and register in provincial regulatory bodies as pharmacists. Accreditation is the formal link between education and practice, made in part by legislation of the profession.

Pharmacy practice is regulated by federal and provincial legislation, such as the Food and Drugs Act (Food and Drugs Act, 2021) and the Pharmacy Act (Newfoundland and Labrador Pharmacy Act, 2012). These laws are upheld by self-regulatory bodies such

as the Newfoundland and Labrador Pharmacy Board (NLPB) and the National Association of Pharmacy Regulatory Authorities (NAPRA), which create standards of practice for the profession. By creating and enforcing standards for pharmacists, the provincial board ensures public safety and protects public interest. In addition to specific standards for provincial practice, NLPB adopted the national NAPRA standards. Pharmacists are expected to know and abide by these standards as a condition of their registration.

NAPRA was an organization created in 1995 with representatives from all the provincial, territorial, and Canadian Forces pharmacy authorities. Similar to provincial boards, their mandate was to protect the public, focusing on national policies and issues. As part of this public accountability for the profession, NAPRA developed professional competencies for pharmacists at entry-to-practice, meaning initial licensure. The competency categories were ethical, legal, and professional responsibilities; patient care; product distribution; practice setting; health promotion; knowledge and research application; communication and education; intra and inter-professional collaboration; and quality and safety (National Association of Pharmacy Regulatory Authorities, 2014). There are similarities between NAPRA competency categories and AFPC educational outcomes, such as patient care and care provider respectively. In addition, each NAPRA category is subdivided into key competencies and enabling competencies, similar to the structure of AFPC educational outcomes. NAPRA standards are the basis for the licensing examinations administered by The Pharmacy Examining Board of Canada

(PEBC). Pharmacy schools must also align their course objectives with the NAPRA competencies as well as the AFPC outcomes.

PEBC was created as an examination and certification organization to ensure that "pharmacists and pharmacy technicians entering the profession have the necessary knowledge, skills and abilities to safely and effectively practise pharmacy" (The Pharmacy Examining Board of Canada, 2022). Members of PEBC include representation from pharmacy organizations and regulatory authorities such as AFPC and NLPB. All aspiring pharmacy school graduates in Canada, except those in Quebec, must pass the two parts of the Qualifying Examination in order to be eligible for licensure in their respective provinces. The first part consists of multiple-choice questions while the second part is a series of objective structured clinical examinations (OSCE). Questions and OSCEs are linked directly to specific NAPRA competencies. Quebec does not require PEBC examination, but has its own provincial education, registration, and licensing requirements.

Between the regulatory associations and boards consisting of AFPC, CCAPP, NLPB, NAPRA, and PEBC, pharmacy education and pharmacy practice are highly intertwined. Each of these organizations feed expectations and standards into the pharmacy school. However, there is a small degree of reciprocity as the pharmacy schools can have faculty, staff, or student representatives in the organizations. The organizations and their relationship to pharmacy schools can be interrogated through critical theory to understand how they influence faculty and student thoughts, and teaching and learning in pharmacy education

Pedagogical changes in pharmacy education

What faculty members perceive as knowledge is important to research. Apple (2019) suggested that all these historically and culturally grounded ideologies are often tacitly accepted by educators whereas a critical approach must ask "where knowledge comes from, whose knowledge it is, what social group it supports" (p. 13). For example, Waterfield (2015) found opposing views of pharmacy knowledge when comparing science-based faculty with practice-based faculty. He claimed, "the scientific emphasis on a large, unique, and broad body of knowledge that could decay contrasted with the practitioner view that knowledge was more fluid and must be easily accessed rather than remembered" (p. 5) and recommended better integration of the two views in pharmacy education. In a Canadian example, Paradis et al. (2018) studied perceptions of national educational outcomes and pharmacists' roles not related to medication management and found acceptance where,

> All faculty members in our sample saw the roles as extremely important, and articulated their importance on three levels: for students, for patients, and for the profession of pharmacy. (p. 202)

Interestingly, they also found that "most faculty members saw roles as the demonstration of internalized skills" (p. 203) mostly developed through informal, non-classroom learning. Knowledge emphasized technical know-how reminiscent of B. Davis et al.'s (2008) conception of episteme—factual, skill-based, and procedural knowledge needed for everyday work. Students are seen as deficient in these skills and empty vessels to fill with knowledge. Therefore, educators may use a Taylorism approach, where lists of skills are identified and turned into objectives that are specifically taught. This pedagogical

approach is reflected in educational practices such as Frenzel et al.'s (2021) development of 289 skills students should have for pharmacy practice. They claimed,

> the development of a laboratory-focused list of essential skills mapped to [entrustable professional activities] domains can be useful to skill laboratory faculty in the development of authentic and robust learning experiences used to guide student progression from level to level. (p. 139)

Therefore, pedagogical approaches taken by pharmacy schools may often form direct connections between skills to be learned and specific classes or activities.

Historically and currently, classroom teaching in pharmacy education is predominantly through lecturing and is often referred to as the didactic curriculum in the literature (e.g., Flannery et al., 2020; Rotellar & Cain, 2016). However, Frankel et al. (2014) explained, "lectures may not provide an optimal learning environment for students" and suggested faculty start using more simulation and realistic scenarios to teach practice. Persky et al. (2019) also suggested that lecturing was insufficient for helping students develop critical thinking skills. Simulation would provide a kind of in-school experiential education, which was considered limited in traditional programs. These pedagogical suggestions occurred while there was a shift in Canada from bachelor's degree programs to undergraduate Doctor of Pharmacy degree programs and a conversation around adding more experiential education to the formal curriculum (Cameron et al., 2016; Cox & Lindblad, 2012). Schools seemed to value this additional practice experience outside of the school compared to the prior emphasis on classroom teaching because the external environment offered opportunities for students to practise skills in real-life. Legal (2019) suggested, "The increased emphasis on experiential education relative to the bachelor degree programs is a positive development that has the

potential to strengthen the practice skills of future pharmacists" (p. 239). Although my research is not directly studying experiential education, it provides a context for understanding the connections between pharmacy education and pharmacy work. These curricular and pedagogical approaches may influence student perceptions on time and efficiency, especially as the PharmD programs narrow the divide between education and the eventual workplace.

In this section, I outlined historical, cultural, ideological, economic, and political influences to show how pharmacy curriculum and pedagogy has changed or remained unchanged. I also highlighted how pharmacy practice and pharmacy education are closely intertwined. Together, these interdependent influences provide a more holistic perspective of pharmacy education. In the next section of my literature review, I focus on current portrayals of time and efficiency in pharmacy education and highlight how these concepts need further research.

Section four: Time and efficiency as portrayed in pharmacy education

While describing the organization of pharmacy education, I commented on the use of standards or accreditation to require the minimum time that programs should spend on components of curriculum, such as experiential education. Time for teaching and learning, or a lack thereof, as mentioned by colleagues was also the initial inspiration for conducting my research. I also explored the literature around efficiency, neoliberalism, and hidden curriculum in pharmacy that depicted a lack of time by pharmacists in practice to do the work required for patient care (Siracuse et al., 2008; van Huyssteen &

Bheekie, 2017). In this section, I expand on the concept and issues of time and efficiency in pharmacy education literature to provide additional context to my research questions.

Time in pharmacy education

Students are regularly exposed to issues of time in pharmacy practice that are reflected in curriculum and pedagogy through practice activities and clinical placements. The common discussion of the lack of time to perform the clinical duties and full scope of practice was reported by pharmacists (LeBlanc, 2013; Rosenthal et al., 2010; Rutter et al., 2000), cementing time's role in influencing practice change. For example, in Hohmeier et al.'s (2018) study of medication therapy services, students were presented with the idea of time-based reimbursement that affected how pharmacists would provide services. They described how different types of medication reviews, from a simple review to a comprehensive one, required different amounts of a pharmacist's time. They argued that schools need to teach students what they could provide in a given time as per the reimbursement criteria, and how to do so in a time-dependent manner. In another example, Atkin et al.'s (2021) study of a government sponsored medication use program highlighted limited time and space as problems because pharmacists were expected to provide health advice to patients through a regimented medication review program. Therefore, time in pharmacy practice was tied to financial gain and there existed an incentive for shortening time for tasks to maximize remuneration.

One solution to the lack of time in practice was to offload administrative and technical tasks to non-pharmacists to allow pharmacists to have more time to provide pharmacy services. It was the main argument in Canada for the professionalization of

pharmacy technicians and could be traced to the late 1980s under the concept of restructuring work (American Society of Hospital Pharmacists, 1989; Molzon, 1990; Rough et al., 1996). However, the goal of pharmacy technician professionalization was not only to free up time for pharmacists but also to increase productivity and thus profit (Mahoney, 1990), thus connecting to the business and neoliberal agenda of pharmacy practice. How these issues are reflected in pharmacy schools and how students approach them is not well studied. Instead, students routinely report the management of pharmacy technicians and the role differentiation between pharmacists and technicians as methods of saving pharmacist time (Mospan et al., 2018). For example, Caldas et al. (2022) simulated a pharmacy technician hiring activity to teach pharmacy students what to look for in technician skills and experience to benefit the pharmacy operation. Students also develop perceptions of the differentiated role of pharmacy technicians through school and work that support this role differentiation (Mack, 2008; Schindel et al., 2017).

Pharmacy faculties are also concerned with the amount of time spent on teaching (Challen et al., 2016; Stewart et al., 2011; Wisniewski, 2018). For example, Phillips et al. (2016) considered quantifying faculty members and student time for an online learning initiative and stated, “Having an understanding of the amount of time students spend on the asynchronous activities might be helpful when determining contact hour allocation” (p. 2). Similarly, Rotellar and Cain (2016) acknowledged that an alternate way of teaching using a flipped-classroom approach would take up more faculty time. However, they reframed these concerns by emphasizing the benefit of student learning and stated, “The return on investment of faculty time is a big consideration. However, time

investment should not be viewed merely as 'extra work,' but as potential quality improvement measures expected of any professional" (p. 6). In another example, Wittman et al. (2017) characterized faculty perspectives on the time required for grading as a measure of the effort and feasibility of a series of activities for students to develop drug information skills. More recently, Miller et al. (2022) implemented an intensive capstone course with the purpose of reducing required student and faculty time so that they could maximize time that students would have for experiential rotations. Therefore, regardless of the educational initiative, a common thread in pharmacy education literature is the consideration of faculty and student time spent on teaching and learning.

However, perhaps the more common concern is time spent on certain curricular topics. Longyhore et al. (2018) commented that,

> As the scope of pharmacy and required practice skills expand, along with the ever-increasing advances in the treatment and understanding of diseases, schools and colleges have three options: extend the length of the professional curriculum, attempt to address the knowledge and ability outcomes to a lesser depth, or remove specific practice skills and abilities from the curriculum. (p. 1020)

They presented a way to organize pharmacotherapy content in the curriculum—a hierarchy of topics in terms of relevance and criticality. A similar approach was taken by the American College of Clinical Pharmacy (ACCP) in 2009, 2016, and again in 2019 to create a tiered list of topics because "most colleges or schools of pharmacy do not have adequate curricular time or resources to teach all topics" (Flannery et al., 2020, p. 461). The ACCP guide was intended to be adopted by most pharmacy schools in the United States, but a Canadian equivalent was not found in the literature. In summary, a lack of

time in schools to teach seemed to necessitate a response from the pharmacy faculty to stratify and organize content and select time saving methods of teaching.

Efficiency in pharmacy education

Efficiency is referred to in pharmacy literature in various capacities including cost-efficiency of programs (Danielson et al., 2014; Mattingly II, 2018), business practices and management (Mospan, 2017; Zainal et al., 2017), and pharmacy practice (O'Sullivan & Sy, 2017; Sharif-Chan et al., 2016). In many of these contexts, a definition of efficiency is not provided, so it remains unclear what efficiency means to pharmacists. Also, there is a lack of focus on how the concept of efficiency may be taught or emphasized in pharmacy education. However, Moseley et al. (2020) analyzed feedback from pharmacy students and gave operational definitions for time management and efficiency in the context of teaching and learning within pharmacy education. Time management and logistics was defined as "students' interpretations of an instructor's responsibility when designing, implementing, and managing a course" (p. 87). Efficiency was "acknowledging the instructor and student commitment to quality and time-sensitivity in the delivery and participation in a learning experience" (p. 87). These definitions were helpful to understand what their students wanted or appreciated in their school.

Efficiency is also considered important when students learn about the delivery of pharmacy services. For example, in pharmacy practice, Jaberizadeh et al. (2020) studied the effect of hiring support staff for pharmacists and concluded that there was increased efficiency measured by more phone calls made by pharmacists to patients. Students are

sometimes provided with these anecdotes from faculty and engage in activities that promote such practices. Educational interventions designed to increase their efficiency, such as using drug-related resources to answer questions posed to the pharmacist, were found in the literature (L. E. Davis, 2014; Nabhani et al., 2020). Why faculty use these educational activities and how they affect students' perspectives on the need for efficiency as it relates to patient care remains unknown.

The other aspect of efficiency in pharmacy education was learning efficiency, meaning less time needed to achieve the same degree of learning. Interventions intended to increase learning efficiency are common in pharmacy education (e.g., Cowart & Updike, 2021; Segarra & Gomez, 2014). For example, Palmer et al. (2019) attempted to compare the efficiency of learning content, measured by assessment results over time spent studying, by comparing rewatching lectures versus practice testing. They found no difference in long-term retention but regardless of the results, the authors suggested that

> Pharmacy students have increasingly busy schedules as they progress through a curriculum and must weigh their lack of time against opportunities to improve their knowledge and performance. (p. 1964)

In another study, Miller et al. (2022) compared the effect of an intensive 2-day course to a weekly capstone course and concluded that students performed equally well. Therefore, they suggested that the shorter course was a better use of time. In some of these types of interventions, researchers also argued that there was less faculty work. For example, Rodis et al. (2014) supported the use of students in upper years to teach students in lower years to develop peer-mentoring, but also as way to lessen the workload of faculty members. They described this method as efficient because,

> it allowed for course faculty members to focus on final evaluations of drug information response assignments for a grade, while allowing [first-year] mentees additional feedback and suggestions to improve their work. Questions that [first-year] students previously asked course faculty members regarding this assignment were answered by [second-year] students in the mentoring program. (p. 5)

In consideration of student learning and faculty work, the reduction in time spent was inseparable from the concept of efficiency. Therefore, exploring the literature for connections between time and efficiency in pharmacy education follows.

Time and efficiency in pharmacy education

In the literature of time in pharmacy education, the concept of efficiency often arose linked to the concept of time. In some studies, efficiency was about good use of time or not wasting time. For example, Blouin et al. (2008) suggested moving to online learning because "Students are frustrated because contemporary technology provides multiple options for efficient acquisition of information; sitting in a classroom with dozens of classmates listening to a traditional, content-rich lecture is viewed as a waste of time" (p. 1). Importantly, the efficiency of learning and the better use of faculty and student class-time was proposed, with content moved to independent learning outside the classroom. Similarly, Hamilton et al. (2020) supported having students participate in online learning so that class-time could be used for application-based learning. They rationalized, "With decreasing resources and faculty shortages in pharmacy education, online delivery of course content is an efficient way to deliver pharmacy curricula while optimizing classroom time for active learning strategies" (p. 614).

Alternatively, other studies argued that efficiency was about saving time. Hawkins et al. (2019) studied using debate as a teaching method and concluded that it

was “both effective and efficient at delivering content related to controversial critical care topics. This teaching strategy is incentivizing for faculty to employ in their specialty area due to the low preparation time required” (p. 947). In a different intervention, Wolters et al. (2021) designed a communication skill learning activity where pharmacy students who performed well on a formative assessment received an exemption for the activity in a summative assessment. They argued “this is more time and cost efficient and it motivates the students to prepare for the formative assessment” (p. 11). The reduction of faculty workload and the speed at which students could learn the material was perceived as an important goal in pharmacy education.

Lastly, efficiency was also emphasized due to the limited time for teaching and learning. In one study, Zhao and Elder (2020) examined the effect of a voluntary student-organized group study on student procrastination and academic achievement. While the group study was positively experienced, the more relevant aspect of their study to my research is the rationale they stated for conducting the intervention. They claimed that pharmacy students had an exorbitant amount of information to learn, and procrastination was detrimental to learning. Thus, creating an opportunity for students to study and not waste time was important, with the argument that “Every program must deal with limited time and resources and determine how to best utilize them to benefit their unique student body” (p. 575). This need for students to be efficient based on time spent is also encouraged with learning activities that introduce a time limit. For example, Cowart and Updike (2021) had a 15-minute structured time for a simulation-based learning (SBL) activity, which was further subdivided into smaller time periods for specific parts of the

simulation. By showcasing their structured activity, they suggested that "ways to incorporate remote SBL facilitation may allow for more efficient use of faculty time" (p. 58). In pharmacy education time limits were often tied to assessment, for example, C. L. Bradley et al. (2022) stated, "Grades demonstrated minimum competency, and the decrease in time throughout the semester indicated that students gained efficiency when they were given time limitations" (p. 826). In these examples, the underlying rationale reflects the idea that there is a lot of content to learn and not enough time to do so in pharmacy education.

Therefore, the problem with time and efficiency in pharmacy education is really about why these conceptions exist and how students may be affected in overt and hidden ways by teaching and learning within these practices. Explicit and implicit educational practices related to time and efficiency may impact how pharmacy students learn to become future pharmacists and may conflict with the expected role of pharmacists as care providers. In the next section, I outline the theoretical framework that supplements my critical theory approach and provides a way to study the concepts time and efficiency in pharmacy education.

Section five: Theoretical framework

Foucault on power, knowledge, and time

Foucault (1977) wrote that "power produces; it produces reality; it produces domains of objects and rituals of truth" (p. 194). In his analysis of the penal system and the history of formal schooling, he also explained that "the formation of knowledge and the increase of power regularly reinforce one another in a circular process" (p. 224), and

"there is no power relation without the correlative constitution of a field of knowledge" (p. 27). This insight served as the basis for his ideas on normalization. He rationalized that "the Normal is established as a principle of coercion in teaching with the introduction of a standardized education and the establishment of the écoles normales" (p. 184). With normalization, homogeneity could be achieved, but more importantly, one could "measure gaps, to determine levels" (p. 184) naturally leading to observation and control. Relatedly, he described the clinical work of medical students and the concept of knowledge created from observation. Foucault (1973) wrote, "by showing itself in a repetitive form, the truth indicates the way by which it may be acquired. It offers itself to knowledge by offering itself to recognition" (p. 110). Thus, control was both external and internalized by the person through the act of observation.

Ryan et al. (2004) advocated for Foucault's work to be used in pharmacy practice research (e.g., Luetsch, 2019; Waring et al., 2016). They explained, "It is time to question the taken-for-granted knowledge base of pharmacy, to look beneath the surface of practices and to ask whose purposes they serve, what are their unintentional effects, and how could things be done differently or better" (p. 50). Foucault's ideas can be used to study what constitutes legitimate pharmacy knowledge or truths and the ways in which those objects exert control on individuals. Applied to pharmacy education research, his notion of power producing knowledge can be used to question objects that give rise to the discipline of pharmacy, similarly to how it may be used in other health disciplines (Hodges et al., 2014). More importantly, Foucault's concepts can be applied to understand how these truths are internalized by students and teachers.

Foucault also examined time as part of his analysis and thoughts on power systems in historical penal systems. One example was the timetable used in prisons as a method of controlling activity. He wrote, "power is articulated directly onto time; it assures its control and guarantees its use" (Foucault, 1977, p. 160). He connected this to education, where time ensured students were where they were supposed to be and learning what they were supposed to be learning. In addition, Foucault's connection between power and time warranted using a critical lens to study the organization of teaching and learning. As pharmacy curriculum is organized, sequential, and timed, one can draw comparisons to Foucault's (1977) analysis of time in military organization whereby,

> It is this disciplinary time that was gradually imposed on pedagogical practice—specializing the time of training and detaching it from the adult time, from the time of mastery; arranging different stages, separated from one another by graded examinations; drawing up programmes, each of which must take place during a particular stage and which involves exercises of increasing difficulty; qualifying individuals according to the way in which they progress through these series. (p. 159)

This perspective could also be used to study time as experienced by students as they are subjected to its demand. For example, timetables are a natural part of organizing university student life, so examining how they affect pharmacy students could reveal locations of power and control, especially with respect to penalties for not adhering to schedules. The student schedule that is demanded by the school resembles a form of payment in order to obtain knowledge, with time as the currency. This is reminiscent of Foucault's (1977) comment on apprenticeships as "an overall exchange between the master who must give his knowledge and the apprentice who must offer his services, his

assistance and often some payment" (p. 156). Given the history of pharmacy education originating from an apprenticeship model, Foucault's conceptions of time served as an appropriate foundation for this thesis.

Foucault on discursive practices

Beyond theoretical conceptions of power, knowledge, and time, Foucault offered a window to analyze fields of study. He saw forms of knowledge produced in multiple ways, including all the human, physical, and structural elements packaged together in history and societies. He called these discursive practices and defined them as "a body of anonymous, historical rules, always determined in the time and space that have defined a given period, and for a given social, economic, geographical, or linguistic area" (Foucault, 1972, p. 117). Bacchi & Bonham (2014) interpreted Foucault's use of the term discourse as referring to knowledge, therefore discursive practices were practices of knowledge formation that gave rise to reality and truth. The discursive practices of pharmacy education may be accepted truths and rules that are historical from roots of the profession, social as a professional distinction, economic as a potential business, geographical from a provincial and national perspective, and linguistic in the legal and educational frameworks defining the profession.

Foucault (1972) also reminds us that discourses are contextual and therefore discursive practices must be studied in relation to the conditions that formed them. He explained,

> The analysis of the discursive field is oriented in a quite different way; we must grasp the statement in the exact specificity of its occurrence; determine its conditions of existence, fix at least its limits, establish its correlations with other

> statements that may be connected with it, and show what other forms of statement it excludes. (pp. 30-31)

Critically in his analysis, it was just as important what was not stated as what was stated. He stressed scrutiny of who issued the statements including their qualifications or prestige, the sites of those statements such as particular institutions, and the circumstances under which the person occupied the sites. Olssen (2014) explained,

> proceeding at the level of statements (énoncés), it searches for rules that explain the appearance of phenomena under study. It examines the forms of regularity, i.e. the discursive conditions, which order the structure of a form of discourse and which determine how such orders come into being. (p. 29)

In addition, Foucault was interested in pursuing the relations between these organizations and between the documents and language that they use rather than the individual statements. He suggested that the connections are more important to analyze, because the relations have "made possible the formation of a whole group of various objects" (Foucault, 1972, p. 49). As an example, he analyzed self-regulation of healthcare and professions, specifically the discipline of psychiatry, that delineated domains of knowledge and control through formation of regulatory bodies and schools. He wrote how,

> this practice is not only manifested in a discipline possessing a scientific status and scientific pretensions; it is also found in operation in legal texts, in literature, in philosophy, in political decisions, and in the statements made and the opinions expressed in daily life. (Foucault, 1972, p. 179)

Day (2012) clarified that, "by focusing on discourse, the point of critique becomes how statements *produce* a meaningful reality, and how social practices are limited to this realm of meaning" (italics in original, p. 79). Foucault's discursive practices and theories of power, knowledge, and time were useful ways to analyze complex relations and

objects that produce meaning and reality for students and faculty. Joined with the concept of efficiency from a neoliberal education lens, an understanding of time and efficiency in pharmacy education could be revealed.

Research questions

In my literature review, I discussed how efficiency and neoliberalism in education has an extensive history but has largely not been researched in pharmacy education. I explored understandings of hidden curriculum in pharmacy education while suggesting a critical theory approach using Foucault's concepts of discursive practices to interrogate knowledge and sociocultural structures. These sociocultural structures including pharmacy business and educational organizations are historically situated, influencing how the concepts of time and efficiency are understood and impacting pharmacy education. I problematized and focused attention on these concepts, which led to my primary research question:

How are time and efficiency collectively perceived and enacted in pharmacy education?

Within this question on the concepts of time and efficiency, I also asked:

How are these concepts rationalized in formal curriculum?

What informal messages or assumptions are being given to students?

How do these concepts relate to the pharmacy profession?

Chapter three: Methodology

My thesis is situated in critical theory as a way to interrogate systems of power and influence in pharmacy education. Merriam and Tisdell (2015) explained, "*critical qualitative research* raises questions about how power relations advance the interests of one group while oppressing those of other groups, and about the nature of truth and the construction of knowledge" (italics in original, p. 61). My research questions aligned with Merriam and Tisdell's perspective and asked:

How are time and efficiency collectively perceived and enacted in pharmacy education?

Within this question on the concepts of time and efficiency, I also asked:

How are these concepts rationalized in formal curriculum?

What informal messages or assumptions are being given to students?

How do these concepts relate to the pharmacy profession?

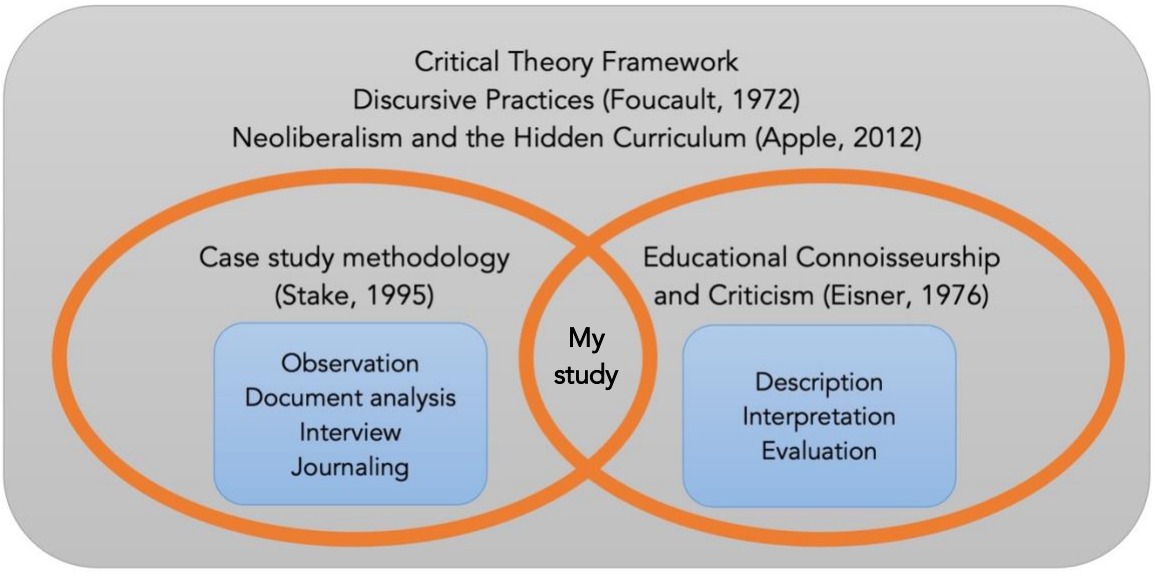
I used case study methodology to answer these questions because of its ability to capture depth and interrogate complex systems. In the previous chapter, literature surrounding neoliberal education and the hidden curriculum drawing from Apple, Greene, and others was discussed. They critiqued educational systems, problematized efficiency, and helped to guide how my research would question power relations and interests in the world of pharmacy education. However, a more nuanced examination of time, and its connection with truth and knowledge construction warranted an additional theoretical perspective. Foucault's ideas on power and knowledge were chosen as this foundation, and further guided the study.

Apart from the case study methodology, Eisner's (1976/2005a) educational connoisseurship and criticism method provided a practical framework for my study. It has three aspects: description, interpretation, and evaluation, which I explain in detail in section two of this chapter. While case study methodology sufficiently emphasizes the depth and complexity of a case, Uhrmacher et al. (2017) explained that educational criticism "not only explores and honors the complexity, but it also may lead to a deeper appreciation for such intricate workings while informing decision-making" (p. 50). As a pharmacy educator, I welcomed the chance to improve or influence pharmacy education through my research.

This chapter is divided into five sections. Section one provides a discussion on the case study methodology. Section two explains the use of educational connoisseurship and criticism. Detailed methods are in section three, followed by a description of the case setting in section four. Section five concludes the chapter with a discussion on reflexivity.

Figure 1 displays how I envision the study conceptually. My research is informed by an overarching critical theory framework that incorporates concepts of discursive practices, neoliberalism, and the hidden curriculum based on works by Foucault and Apple for example. My study lies in the intersection between case study methodology (Stake, 1995) and educational connoisseurship and criticism (Eisner, 1976/2005a). I used multiple methods by conducting observations, document analysis, interviews, and journaling in the case study methodology. Lastly, the data analysis and writing were organized through the description, interpretation, and evaluation aspects of educational connoisseurship and criticism.

Figure 1. Methodological approach



Section one: Case study methodology

Case study (Merriam, 1988; Stake, 1995) was my methodology of choice to understand how time and efficiency were perceived and enacted in pharmacy education because it could capture the complexity of the issue and provide an avenue for rich explanations and voice. Merriam (2009) explained that case study methodology "offers a means of investigating complex social units consisting of multiple variables of potential importance in understanding the phenomenon" (p. 50). Pharmacy education comprises many internal moving parts such as curriculum, students, and faculty, but also external moving parts, such as accreditation, industry, and legislation. These parts are rooted in and continuously influenced by ideological, historical, cultural, economic, and political factors. Case study methodology allowed for the acknowledgement and examination of all these parts and influences in a comprehensive way. Too, Hyett et al. (2014) recommended that case studies should be theoretically situated lest they "appear to be a

case report," (p. 9) rather than a methodology. My study is situated within a critical theory framework informed primarily by the works of Foucault and Apple, as previously discussed.

The hallmark of a case study is the unit of analysis which can be delineated by clear boundaries (Merriam, 2009; Stake, 1995). The unit of analysis in this thesis is the pharmacy school, which has several natural spatial and temporal boundaries. Using the analogy of zooming in on a map to describe the boundaries, one could start wide and see that the school is the sole pharmacy school in the province. Healthcare professionals are regulated at the provincial level, reinforcing the purpose and place of the school. Zooming into the university, the school is a distinct unit in the university, independently operating from other health professional faculties. However, the physical space of the school is part of a large university and teaching hospital complex, along with the medical and nursing schools. Closing in on the pharmacy program, students are accepted as cohorts and experience a five-year curriculum together. Lastly, within the curriculum is a sequential arrangement of courses and experiential learning. Together, they form the well-defined boundaries of this case study.

The many factors and influences to explore would naturally be expressed in different ways and "the case study's unique strength is its ability to deal with a full variety of evidence—documents, artifacts, interviews and observations" (Yin, 2014, p. 12). Case study methodology makes use of multiple methods for data gathering to generate an in-depth and holistic account of the case (Stake, 1995). And in connection with the critical theory framework, Kincheloe (2008) emphasized the concept of bricoleur

attack and the use of multiple tools and methods in research to uncover "both the visible and invisible artifacts of multiple forms of power, and documenting the nature of its influence on not only their own but on scholarship and knowledge production in general" (p. 132). Therefore, this thesis incorporated multiple forms of data and multiple ways of analysis to achieve a bricolage, which is further discussed in the section on methods.

Section two: Educational connoisseurship and criticism

An additional dimension—Eisner's (1976/2005a, 1977/2005b) educational connoisseurship and criticism—was used to complement the case study methodology, and guide analysis and writing. Uhrmacher et al. (2017) explained that educational criticism "overlaps with approaches such as ethnographic and case study research because educational criticism often involves fieldwork and seeks to contextualize data by attending to the particulars of what educational critics observe" (p. 3). Many researchers have used educational connoisseurship and criticism since its origin (e.g., Koetting, 1988; Mears, 2008; Nordin & Wahlström, 2019), highlighting its broad applicability. Eisner's model of connoisseurship and criticism was envisioned in response to the dominance of scientific inquiry in educational research that he thought did not do justice to the richness and complexity of education. He introduced educational connoisseurship and criticism to enrich educational research so that we might better appreciate, understand, and evaluate education. He described how there was,

> strong aspiration among psychologists to create a science of education which would provide educational practitioners – administrators as well as teachers – with the kind of knowledge that would permit prediction through control of the process and consequences of schooling. (1976/2005a, p. 37)

The chapter two literature review elaborated on the four consequences to the emphasis on prediction in scientific inquiry, namely, oversimplification of complexity, goal-oriented activities, objectification of knowledge, and testing and standardization (Eisner, 1976/2005a). Eisner's arguments connected to those of Foucault, Apple, Greene, and Giroux on the structure, purpose, and neoliberalization of education, which made educational connoisseurship and criticism a useful perspective for my study.

In contrast to the scientific inquiry, Eisner's (2003) educational connoisseurship and criticism was born in the arts. He explained, "we limit our ability to advance our comprehension of educational matters when we restrict our forms of representation to traditional factual propositional forms of writing" (para. 20). Within the arts, educational research can be broadened by explaining that which is complex and cannot be reduced to a set of facts. Eisner (2002) noted, "The art critic finds himself or herself with the difficult task of rendering the essentially ineffable qualities constituting works of art into a language that will help others perceive the work more deeply" (p. 213). The connoisseurship and criticism method is an artistic endeavour, which involves three features—description, interpretation, and evaluation. In the following subsections, I expand on each of these features.

Educational connoisseurship and criticism: Description

Educational connoisseurship and criticism includes description of the situation, paying close attention to essential pieces and subtle qualities (Uhrmacher et al., 2017). Engaging in attentive and thorough description has roots in ethnography and parallels the value of rich and thick description (Merriam & Tisdell, 2015; Wolcott, 1999) in

qualitative research. Eisner (1977/2005b) drew from the ethnographic tradition and claimed, “thick description aims at describing the meaning or significance of behavior as it occurs in a cultural network saturated with meaning” (p. 54). Therefore, the methods chosen must be able to capture detail and depth, and the written results must showcase it such that the audience can feel and experience the case. Uhrmacher et al. (2017) further explained that the aim of description is “not simply to depict, but to evoke images and to give the reader a visceral sense of places, people, and situations” (p. 39).

However, what is presented is always selective, depending on the researcher and should be guided by theory. Eisner (1977/2005b) wrote, “The lesson to be learned here is that sheer description unguided by value considerations is rudderless. Seeking and selecting require guideposts” (p. 51). In the arts, he referred to aesthetic theory. In this study of pharmacy education, I have used a critical theory framework. Notably, Uhrmacher et al. (2017) recognized that theory is helpful in focusing the research, but they warned that theory may also prevent researchers from seeing that which is out of focus. Heeding this caution was important in this thesis, especially coming from a critical theory framework. I made sure to follow Uhrmacher et al.’s (2017) advice that "critics seek to describe what surprises them as well as what they anticipate” (p.39).

Educational connoisseurship and criticism: Interpretation

A second aspect is interpretation, which taps into the researcher’s appreciation and experience in an effort to understand and make sense of descriptions (Eisner, 1976/2005a). Appreciation refers to “an awareness and an understanding of what one has experienced” (Eisner, 1976/2005a, p. 40), thus providing one the foundation to make

judgments. Although Eisner separated the description and interpretation parts, they are intricately connected as "interpretation feeds description and description feeds perception" (Eisner, 2003). Uhrmacher et al. (2017) further explained,

> The degree to which description goes beyond a simple recounting of events to support or foreshadow themes, relationships, and concepts is the degree to which description overlaps with interpretation. (p. 41)

Locke and Riley (2009) concurred with Eisner and highlighted that interpretation applies "a particular discursive frame to the reading of a situation" (p. 491). In other words, interpretation ascribes meaning to data and descriptions, and this aspect is achieved through data analysis.

The researcher or connoisseur and critic chooses the interpretive frame for the study. Each frame provides a different way of seeing and understanding that has value. However, Uhrmacher et al., (2017) maintained that "the conceptual power of an interpretive frame is closely linked to evaluating the usefulness of the work as a whole" (p. 46). For example, Mears (2008) used an oral history and lived experiences framework that explored school violence events, which led to a helpful evaluation of the impact of such events. For my study, I have chosen a critical theory framework that allows for questioning practices and thoughts that are culturally and ideologically formed in pharmacy education.

Educational connoisseurship and criticism: Evaluation

The third feature of educational connoisseurship and criticism is evaluation. Eisner (1977/2005b) explained, "if Connoisseurship is the art of appreciation, criticism is the art of disclosure" (p. 49). It seeks to disclose or make visible that which is unseen. He

added, “its aim is to lift the veils that keep the eyes from seeing by providing the bridge needed by others to experience the qualities and relationships within some arena of activity” (p. 50). Importantly, as description and interpretation are situated in theory, so too is evaluation. Uhrmacher et al. (2017) suggested that theory could be brought into evaluation from either a prefigured or emergent focus. In the emergent focus, theory informs the evaluation after observations are made, whereas in the prefigured focus, theory directs the observations. I took a prefigured approach from critical theory that permeated the entire research to better problematize the concepts of time and efficiency.

In evaluation, judgments are expected from the critic, and educational significances and potential improvements are discussed. Uhrmacher et al. (2017) advocated that the critic “asks what is of value here, both for those involved and for the educational enterprise” (p. 50). In my study, I showcase how the adoption of the described and interpreted concepts of time and efficiency in school practices impact students and their learning. However, Eisner acknowledged that criticism can be from an idealized perspective of what should or might be, so the researcher must consider the practical realities of education during this evaluative phase.

Later in his writing, Eisner added a fourth aspect called thematics, which groups together the evaluative pieces and “articulates the patterns, big ideas, and anticipatory frameworks for other educational situations” (Uhrmacher et al., 2017, p. 54). Locke and Riley (2009) suggested this was a form of generalization of lessons learned from the research. However, my thesis does not attempt to create these frameworks because it may detract from the reader’s own reflection. Instead, an intrinsic case study design (Stake,

1995) was used for uncovering specific understandings of one school rather than a broader understanding of pharmacy education. This approach maximized the depth of learning about the school, which could serve as an example for readers to carry into their own worlds. Stake (1995) referred to this as naturalistic generalization or "conclusions arrived at through personal engagement in life's affairs or by vicarious experience so well constructed that the person feels as if it happened to themselves" (p. 85). Similarly, Merriam (2009) suggested "it is the reader, not the researcher, who determines what can apply to his or her context" (p. 51).

Returning to the method's arts-based origins, connoisseurship and criticism recognizes that the researcher brings a perspective with which others may disagree. Analogies could be made to critics of fine art and theatre or to purveyors of fine wines and foods. Eisner used wine appreciation as an example of how a connoisseur develops awareness with experience. He described that "One educates one's palette. One begins to notice what initially one hadn't experienced. Perception becomes increasingly differentiated and there resides as a result of experience with wine a visual and gustatory memory" (Eisner, 2003, para. 8). Connoisseurship is a personal and private matter that moves into the public sphere with criticism. However, Eisner also recognized that two critics may have different thoughts and say different things. Using Shakespeare's *Hamlet* as an example, he explained "Through a combination of perspectives we secure a more comprehensive view of the play, we secure difference angles of refraction and therefore come to understand the play in ways that no single criticism could provide" (Eisner, 2003, para. 41). And Locke and Riley (2009) reasoned,

> The connoisseur's sense that his or her experience is inevitably being filtered through a particular discursive lens or set of lenses is to be viewed as a strength. Indeed, without the lens there would ultimately be no significance, and multiple significances are okay. (p. 490)

Thus, value comes from the researcher's appreciation, experience, perspective, and willingness to engage with the issue. Combined with case study methodology and the ability to attend to multiple methods within a well-defined setting, my thesis pursues the meanings and significances of time and efficiency in pharmacy education through a critical lens.

Trustworthiness of educational connoisseurship and criticism

Eisner explained some of the potential trustworthiness concerns that researchers using educational connoisseurship and criticism could face. First, articulation of the research to the intended audience must be appropriate. In my study, the intended audience is other pharmacy educators, therefore the language and technical description of the pharmacy school and curriculum must be accurate and comprehensible. Second Eisner (1977/2005b) cautioned, "It is possible for critics to bring such bias to an encounter that they misread the situation" (p. 56). Although it is important that the critic bring a particular lens and connoisseur's appreciation to a situation, their descriptions and interpretations must present the whole story and conclusions must be supported by data. Eisner (1976/2005a) called this "structural corroboration" (p. 46) and Uhrmacher et al. (2017) explained, "The structurally sound criticism is characterized by consistency and coherence and deftly portrays the situations supported by evidence for the critic's impressions" (p. 59). I employed a bricolage approach using multiple participant interviews, documents, and observations to provide sufficient depth and detail to the case.

Lastly, Eisner (1976/2005a) stated, “The test of criticism is empirical in the sense that one asks of the criticism whether the referents it claims to describe, interpret, and evaluate can be found in the phenomena to which it attends" (p. 46). Eisner called this trustworthiness concern “referential adequacy” (p. 46). Uhrmacher et al. (2017) advised that “referential adequacy is achieved through member checking, interview questions dealing with the significance of the topic, and attending to the contemporary and historical trends in education” (p. 60). Therefore, I provided the contextual background of pharmacy education in my literature review and incorporated these validity elements into my study methods to support trustworthiness.

As a pharmacist and pharmacy educator, I have the necessary qualities and experience to embrace the educational connoisseurship and criticism approach. Uhrmacher et al. (2017) used the term “seeing-with” (p. 4) to represent the perceptive insider view a connoisseur provides stemming from a strong relationship between and the area of study and the connoisseur. In addition, my Master’s degree in Health Professional Education and engagement in educational research provide the important “seeing-about” (p. 4) perspective that supports the critical research I chose to conduct and the evaluation of educational practices in pharmacy education.

Section three: Methods

This study was conducted in a pharmacy school at a large publicly funded university in Canada. Multiple methods—course observations, document analysis, interviews, and journaling—were used and data collection spanned one academic year between 2020-2021. Within the boundaries of the case, student and faculty participants

were members of the school. Details on each method are separately discussed, however, journaling as part of researcher reflexivity is dedicated to section five of this chapter. Data and analysis methods conclude the methods section.

Course observations

I used observations because they provided "a firsthand encounter with the phenomenon of interest rather than a second hand account of the world obtained in an interview" (Merriam & Tisdell, 2015, p. 137). Importantly, observations allowed me to see and reflect upon the informal and implicit curriculum that would otherwise be difficult to uncover. Therefore, observations were conducted for courses associated with the practice of pharmacy, including pharmacotherapy, pharmacy practice, pharmacy management, leadership and health promotion, and health systems. Pharmaceutical science courses such as medicinal chemistry or pharmacokinetics, and courses on clinical research were not included because they were primarily factual knowledge based and not directly representative of what a pharmacist does in the workplace. Experiential placements were also not observed as practice sites and preceptors were beyond case boundaries. Lastly, courses taught by my supervisor or myself were not observed for research integrity reasons. With these criteria, a total of 16 courses could be sampled across the five-year program. I used typical case sampling (Patton, 2015) because it allowed for "selecting and studying several cases that are average to understand, illustrate, and highlight what is typical and normal" (p. 284). As well, it would be difficult to observe all courses due to conflicting class schedules. However, by observing

multiple courses, I could obtain sufficient data without scrutinizing individual faculty members, and anonymity and confidentiality could be better maintained.

I conducted semi-structured observations (Angrosino, 2007) to look for specific examples of time and efficiency, related concepts such as the consequences of inefficiency, and the use of time-based activities in class. I generated an observation guide (Appendix B) to help ensure that observations were complete and provided "a relatively incontestable description for further analysis" (Stake, 1995, p. 62). This included characteristics of the setting, content of instruction, teacher communication, and concepts emphasized by the instructor. However, in line with semi-structured participant observations methods, emerging observations that did not fit into the guide were recorded as well. Students and their work were not observed in accordance with the ethics review, and a "complete observer" (Merriam & Tisdell, 2015, p. 145) approach was taken to limit interference with teaching and engagement with instructor or students. This was important because of my role as an instructor in the school, which is discussed in the subsequent reflexivity part of this chapter.

Observations were conducted virtually as the institution transitioned to remote learning during the COVID-19 pandemic. Instructors had the option for asynchronous or synchronous course delivery, therefore, a combination of live or recorded classes was expected. In addition, observations were taken of materials posted in each course's online learning management system including notes, discussion board activity, and announcements.

Interviews

I conducted semi-structured interviews (Brinkmann & Kvale, 2015; Seidman, 2013) with students and faculty members. In addition to institutional ethics, the interviews were informed by relational ethics which is based on an ethics of care and encompasses notions of mutual respect and attention to interpersonal relationships (Ellis, 2007; Taylor, 2011). This was crucial as I had prior collegial relationships with faculty members and directly taught all the students in my work. Too, interviewing from a critical theory framework and looking for discursive practices (Foucault, 1972) could have generated potential conflict (Hammersley, 2014). Interviews were conducted after course observations at the end of term to avoid interfering with teaching and learning.

I used sensitizing concept exemplars sampling (Patton, 2015) for faculty interviews to obtain emic perspectives on time and efficiency in pharmacy education and practice. This type of sampling selects "information-rich cases that illuminate the use and meaning of particular concepts within particular settings" (p. 291), which enabled directly reaching out to specific individuals in the school who may have used or applied concepts of time and efficiency in curriculum or pedagogy. In contrast, I used maximum variation sampling (Creswell, 2016; Patton, 2015) to recruit students to obtain diverse perspectives from as many participants as possible. Recruitment emails were sent to all students through each cohort's Listserv. Interviews were conducted through videoconferencing due to pandemic restrictions. They were audio-recorded and transcribed verbatim. Transcripts were returned to participants for member checking as part of strengthening trustworthiness.

Document analysis

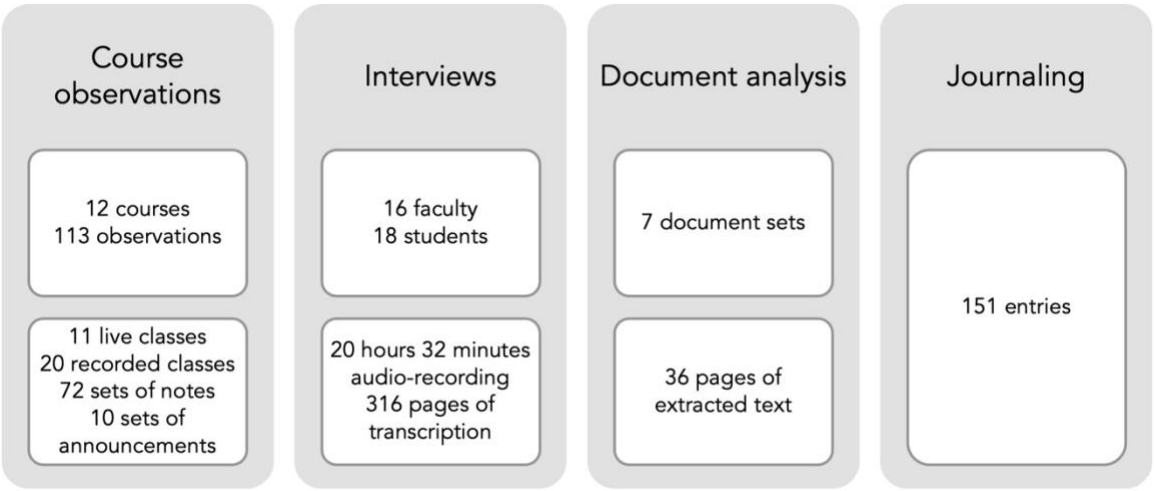
I used Bowen's (2009) iterative process of "skimming (superficial examination), reading (thorough examination), and interpretation" (p. 32) for document analysis. Documents were necessary to distinguish the intended curriculum from the enacted curriculum. This was particularly important because external pharmacy organizations in Canada are connected to the School, some in a hierarchical sense, with some of their documents referenced in the pharmacy program and courses. So even though these organizations physically existed outside of the case study, their documents influenced curriculum and teaching. I used purposive criterion sampling (Patton, 2015) to gather public documents that courses or instructors referred to in the pharmacy program. Similar to observations methods, rationales for teaching, specifics on time and efficiency, and related concepts such as employment or effectiveness were extracted for further analysis. Emergent concepts were also explored.

Data

Figure 2 provides a summary of the data obtained in this study from all methods.

Twelve courses were observed over two semesters across all four cohort years. To preserve the anonymity of instructors, courses were not identified by cohort. A total of 113 observations were conducted, with 11 live sessions, 20 recorded sessions, 72 sets of course notes or activities, and 10 sets of class announcements.

Figure 2. Sources and data obtained from methods



A total of 16 faculty members including those teaching in the courses observed were interviewed. They had a range of experience in academia and practice but are not further differentiated by position or gender to protect their anonymity. Eighteen students were interviewed, two from first year, five from second year, three from third year, and eight from fourth year. All had some experience in community pharmacy practice either through their experiential education or part-time work, whereas many did not have institutional pharmacy practice experience. They are also not identified by gender in this thesis. With faculty and students combined, there were 20 hours and 32 minutes of audio-recording and 316 pages of transcription. From member checking, 16 participants responded confirming what they said, three responded with minor edits, and one participant wished to review any quotations used in the thesis. These quotations were checked with the participant during writing and were confirmed with minor syntax changes.

Although most documents were packages with appendices or attachments, they were organized into seven sets and included:

- AFPC Educational Outcomes for First Professional Degree Programs in Pharmacy in Canada 2017 and associated Appendices (Association of Faculties of Pharmacy of Canada, 2017)
- Accreditation Standards for Canadian First Professional Degree in Pharmacy Programs (The Canadian Council for Accreditation of Pharmacy Programs, 2020)
- Professional Competencies for Canadian Pharmacists at Entry to Practice (National Association of Pharmacy Regulatory Authorities, 2014)
- Code of Ethics (Newfoundland and Labrador Pharmacy Board, 2014)
- Standards of Pharmacy Operation: Community Pharmacy (Newfoundland and Labrador Pharmacy Board, 2015)
- PEBC licensing examination blueprint and preparatory information published online (The Pharmacy Examining Board of Canada, 2021)
- Experiential education handbooks and manuals published on the school's university website (School of Pharmacy, 2021)

Data analysis

Data from each method were initially analyzed separately. I independently coded the data manually and used spreadsheets and text documents to organize my analysis. As patterns emerged from data across the methods, I subsequently combined the data under the educational connoisseurship and criticism approach of description, interpretation, and evaluation for a cohesive presentation of the case.

I organized the observation data based on the course types of pharmacy practice, pharmacotherapy, or social and administrative pharmacy. Since the semi-structured observations were mostly looking for how the concepts of time and efficiency were reflected in teaching, an initial deductive analysis for each course (Patton, 2015) was used for these constructs individually and as a combined construct. I subsequently used an inductive analysis approach (Patton, 2015) to uncover patterns and understand the constructs across course types.

I used first-cycle structural coding (Saldaña, 2015) for interview data to "both code and categorize the data" through conceptual phrases of perspectives on time and efficiency. I then used an additional first-cycle values coding (Saldaña & Omasta, 2018) process because upon my review of the recordings and transcripts, it became apparent that participants' values, attitudes, and beliefs were abundant in the data. From the first set of codes, I used second-cycle pattern coding (Saldaña, 2015) to look for similarities and differences among participants. I compared codes and used coloured text and shading to visualize these relationships in my analysis spreadsheet. I reviewed each transcript at least three times during the analysis process and checked my coding for accuracy and thoroughness.

I conducted document content analysis using keywords-in-context analysis (Leech & Onwuegbuzie, 2007, 2008), which examines the relationships between keywords and the surrounding text. Initial keywords were efficient and measures of time, such as hours and minutes. The second phase of document analysis or thorough examination (Bowen, 2009) helped expand this list of keywords to include related terms such as effective,

optimize, and proficient. I checked for completeness with computerized find and highlight functions for all the keywords. As keywords-in-context analysis focuses on smaller sequences of words, I also conducted latent content analysis on the larger segments of text where the concepts were found. Latent content analysis involves the interpretation of text and specifically focuses on implied or underlying meanings as opposed to just describing what the content is (Leech & Onwuegbuzie, 2008).

Trustworthiness

First to note, this study was approved by the institution ethics review board (Appendix A). A detailed audit trail documented all the dates for each part of the study, from recruitment to member checking, observations to interviews, and analysis to manuscript writing.

Stake (1995) focused on various forms of triangulation as the main way in which case study research develops validity. He said, "we need certain triangulation protocols or procedures which researchers and readers alike come to expect, efforts that go beyond simple repetition of data gathering to deliberate effort to find the validity of data observed" (p. 109). I followed several of his recommendations, including triangulation of data sources, investigators, and methods, as well as member checking. Data source triangulation was achieved through sufficient sampling in observations and interviews. Observing several courses in each of the categories of pharmacy practice, pharmacotherapy, and social and administrative pharmacy allowed for comparison and to "see if the phenomenon or case remains the same at other times, in other spaces, or as persons interact differently" (Stake, 1995, p. 112). Similarly, speaking to students in all

cohorts was important for data source triangulation. Investigator triangulation was more difficult to achieve because this doctoral research was conducted independently, including all data collection and analysis. However, supervisor guidance throughout the study and having conversations around data collection and analysis helped to clarify interpretations and perspectives. Additionally, using multiple methods and multiple ways of analysis achieved a bricolage (Kincheloe, 2008).

Member checking was performed by sending interview transcripts back to participants for review. Relatedly, follow-up interviews with instructors participating in course observations served to check observations and balance my etic perspective with the participants' emic perspectives—an important validity check in observational research (Angrosino, 2007).

To provide the entirety of the case to readers, it was also critical to search for "disconfirming evidence" (Creswell & Miller, 2000, p. 127) and show instances where descriptions may not align with overall interpretations of the researcher. The level of depth connected back to Stake's (1995) concept of naturalistic generalization, where readers generate conclusions and apply the case study to their own lives. My thesis strove to assist the reader in making naturalistic generalizations through detailed presentation, transparency of methods, multiple participant viewpoints, and providing confirming and disconfirming thoughts. Lastly, trustworthiness was enhanced through researcher reflexivity, which is explored in section five of this chapter.

Section four: The case setting

Before describing the usual physical setting, I provide a quick note about the online classroom environment because my study was conducted during the COVID-19 pandemic and classes were moved to a virtual platform. For most classes, it could be aptly described as black boxes on a screen. The instructor's self-video, screen-shared slides, and perhaps a handful of student videos were visible during classes regardless of whether they were lecture based or practical sessions. This choice was often a combination of technological limits and consideration of potentially excessive on-video time for students.

Eisner (2003) claimed, "the ability to convey the feel of a place is a way to help someone understand what it is like to be there, a form of understanding that I believe most people would regard as important" (para. 19). Therefore, I present the physical setting of this case study from my point of view to enhance the feel of the place and bring the readers into the school. This is the physical space that students would normally be in for learning and grounds the practices that will be described, interpreted, and evaluated in the following chapters.

It is a late summer day, cool and overcast with a strong breeze. A large complex can be seen on my left as I drive along the main road of the university. It's a familiar sight, the mostly brown brick and mortar hospital built several decades ago and stretching almost half a kilometre long. Half of it is parking lots, but I can see the greenery and hilly landscape behind the complex. As the tertiary care centre of the province, additions have

been made over the years to the building including a children's hospital, cancer centre, and there is new construction starting soon for a new hospital wing.

Turning into one of the main roads into the complex, there is a clear and intentional connection between the university and the hospital. A sign tells you that pharmacy, medicine, and nursing faculties are in the same complex. If this is your first time going to the pharmacy school, you are likely to get lost. A prominent entrance in a relatively new wing of the building says it is the faculty of medicine. You could enter here and wander around inside to find where the pharmacy school is, but it is not considered the main entrance to the school. Instead, I walk through a parking lot and then along the side of the complex to a somewhat hidden entrance with a small sign indicating pharmacy and nursing are here. I use my key card to unlock the door and I am greeted by a wide but dim stairwell that only goes up.

At the top of the stairs, I reach the third floor and a double door opens up into a narrow corridor lined with offices and overhead signs for the lecture theatres. Arrows and flyers on the walls for physical distancing tell me walking traffic goes one-way because we are in the pandemic. It is quiet and all the doors are closed because students are going to school virtually and faculty are working from home. The quietness is unusually calming compared to years past when students chatted while standing outside a lecture theatre waiting to enter after another class finishes their class. Entering one of the lecture rooms, the setup is as you might expect, a few rows of desks facing a large whiteboard, podium, and projection screen. The lecture theatre next to it is brighter and recently renovated with new technology, multiple video screens, and moveable tables arranged

into six groups. It is empty today, but a full class would fill all the seats, a tight but potentially lively room.

Leaving the room, I notice the dimmer lighting again—a yellowish glow reflects off the walls, low ceilings, and wooden doors. The hallway is warm with a jacket on, and it is clean, but I do feel the age of the building. Academic articles, school certificates, and pictures of students receiving awards dot the bulletins along the way, while the path splits into two when I reach the blue student lockers. I know nursing is on the left, so I go right towards the pharmacy practice lab to visit the other place undergraduate students have classes. A timeline of the school is showcased on the wall, artistically done and almost like a mural. It highlights school pride with student and school accomplishments such as the inaugural graduating class or the 100% pass rate on the licensure exam. Benches line this wall, which sits opposite student mailboxes and more lockers.

Rounding another corner, a hallway leads to the double doors of the pharmacy practice lab. The room is sponsored because its creation or major renovation was supported by a large donation. Entering the lab there is a large open space with many rolling chairs in the centre facing the projector screen near the door and there are tables off to the sides. At the back is a pharmacy dispensary, with a high counter and medication bottles filling the cabinets behind it. Other medication bottles and boxes fill cabinets along the walls and in front of the dispensary. A room labelled for counselling is to my direct right and the room opens up further on my left into two “pods”. Each pod has four or five workstations spread out along the perimeter of the walls, equipped with a computer, highchairs, high counters, and many cabinets. Students working at the stations

would face the walls or cabinets. The lab is split into two parts, probably because of the structural features of the building. But turning right at the dispensary leads to three additional pods, with an identical setup to the other pods. There is a second counselling room on the opposite side, but a collapsible wall divider can open it up to the first room.

These are the main teaching spaces of the pharmacy school but there is another short hallway with pharmacy faculty offices and meeting rooms as well as a large student lounge on the first floor. There are other shared spaces with the faculties of medicine and nursing I have not described. Nevertheless, students traverse these hallways and rooms on a daily basis much like I have.

In my description of the case setting, I showed the physical space where the concepts of time and efficiency inhabit. While it was different today with no students in the hallways, I can remember the busy atmosphere in the hallways as students chatted about projects and worried about exams. I can feel the hustle as students complete work in the lab, moving around the lab to different workstations set up for different activities. I can also recall the methodical and effortless routine of students shuffling in and out of classes. In these ways, the school tries to make use of all available space and time through efficient arrangement of classes and organized movement of students.

The case setting highlights my familiarity with the school and the place where I have made connections with faculty and students. Such connections have influenced my views on pharmacy education and my research questions. Therefore, it was important to be introspective of my thoughts and feelings as I conducted my research. The next section explains how I used journaling to demonstrate researcher reflexivity.

Section five: Reflexivity

Stake (1995) discusses the concept of relativity in relation to qualitative case studies. In particular, researchers either deliberately or intuitively, decide on how they will approach their roles relative to the purpose of the study. The researcher is directly involved in data gathering, analysis, and interpretation; filling multiple roles, such as a teacher, evaluator, biographer, and "consciously or unconsciously makes continuous decisions about how much emphasis to give each role" (Stake, 1995, p. 91). While in these roles, the degree of personal involvement, the perspectives, advocacy of positions, are but a few of the considerations the researcher makes. These internal decisions affect the study from conception to publication and methodologists have implored qualitative researchers to make apparent the rationales for them as part of researcher reflexivity (Finlay, 2002; Hesse-Biber, 2016; Merriam & Tisdell, 2015). Reflexivity enriches the study by providing depth, complexity, and context, making visible the researcher's assumptions and biases. It also strengthens validity of the research by explaining how these biases may influence the research (Flyvbjerg, 2006).

An important consideration of credibility is that I played an active role in the school through teaching and providing experiential education. I was also a pharmacist working in a consultant position at the school and various external pharmacy organizations throughout this study. Although I approached my study from a critical theory perspective and problematized time and efficiency in pharmacy education, I was certain that I contributed to the ideologies and the school environment in the past. Thus, it was important to capture how my involvement in all these activities might affect my

research. Some of the possible effects were ethical, as the trust among students, faculty members, and me would potentially be eroded because of the educational criticism approach I took. Kleinsasser (2000) explained that "reflexivity enables the researcher to explore ethical entanglements before, during, and after the research" (p. 157), and these entanglements were essential to acknowledge and address in my case study. Broadly, being reflexive was an explicit way to bring in emic and etic perspectives. Thinking reflexively allowed me to be mindful of how "to do justice to both perspectives during and after fieldwork and to be clear with one's self and one's audience how this tension is managed" (Patton, 2015, p. 338).

Hamdan (2009) used the phrase "reflexivity of discomfort" (p. 378) to describe how reflexivity can expose the researcher's identity in ways that might be uncomfortable and notably, would otherwise be hidden from readers. In addition, she acknowledged the difficulties of navigating insider-outsider research (Wolcott, 1999) whereby, "critiquing one's own culture can be seen as inviting others to question one's loyalty" (Hamdan, 2009, p. 397). Her terminology and concerns paralleled my professional identity as a pharmacist and educator working with colleagues, friends, and students within the same boundaries of my case study. Therefore, it was of utmost concern that I be open and honest in critique while balancing care for participants and the place to which I was intricately connected.

During my study, I chose to document my participation in and out of the school through journaling (Etherington, 2004; Ortlipp, 2015). My journal captured my thoughts, feelings, observations, reflections, and commentary during teaching, meetings, and other

research activities. However, Probst and Berenson (2014) cautioned, “It is not the writing of a memo or the participation in a team meeting that makes an action ‘reflexive,’ but the inner attitude with which that activity is undertaken” (p. 825). Therefore, it was important to revisit and analyze my journal entries, and they became another data source.

Journal data consisted of 151 entries between July 6, 2020, and June 30, 2021. Data were analyzed by transforming texts into a visual journey annotated with carefully selected words and phrases directly from my entries. It was fitting to adopt an arts-based approach given the influences and origins of educational connoisseurship and criticism. However, this approach was taken for three more reasons. First, after initial review of journal entries I noted that the text contained persons, places, and events that should be kept confidential and anonymous for ethical reasons. Next, an arts-based approach to craft a visual language (Lupi & Posavec, 2016) would be able to show patterns in my everyday life as a student, teacher, researcher, and pharmacist. Lastly, keeping with the journaling method, a selection of text added to the visual representation would enhance the patterns and create deeper meaning.

Although not entirely a poetic endeavour, I drew from poetic inquiry methodology (Brown et al., 2021; Faulkner, 2007; Prendergast, 2009) to complement my critical theory approach because in art and research, poetry has significance in social action, “to make sense of, critique, and respond to current events” (Faulkner, 2019, p. xii). Poetry in qualitative research has frequently been debated, but Cahnmann (2003) argued,

> Just as the microscope and camera have allowed different ways for us to see what would otherwise be invisible, so too poetry and prose are different mediums that give rise to ways of saying what might not otherwise be expressed. (p. 31)

And commenting on the use of poetic representation in education research, Fitzpatrick and Fitzpatrick (2020) explained how poetic representations capture emotions and communicate thoughts and ideas in ways that academic writing cannot. They asserted, "Poetry is unapologetically emotive and evocative. It speaks to what is at the heart of education: connections between people, places, and things. Poetry surprises and engages, and it can enable learning and spark curiosity" (p. 9). Cahnmann's (2003) analogy aligned with my aim to transform journal entries into prose, reflecting the connoisseurship and criticism framework I used to bring into focus what was not expressed or considered in pharmacy education.

Lupi and Posavec (2016) outlined multiple ways that data can be transformed, such as grouping by time or topic, and using shapes, sizes, and colour. They suggested spending time with the data to understand them, then experimenting with various ideas of how to represent them. Then, the researcher needs to establish a set of rules to guide the creation of the final picture and legend. Following this process, journal data were organized chronologically and categorized based on the entry topic such as teaching, ethics, and observation. In analyzing the entries, I extracted, either by recollection or as written, the major feeling I experienced for each entry. These feelings were then assigned a strength. Each entry was also rated based on the extent to which it aligned positively or negatively with my perspectives on time and efficiency in pharmacy education. A recursive approach was taken by constantly re-reading and checking entries to ensure that

all my assignments continued to be representative and consistent with my established rules. Afterwards, these were displayed as different sized and coloured circles along a two-dimensional space with a legend created for readers. Thirty-three phrases with additional descriptors were constructed with words taken verbatim from journal entries and selected purposively for emotional expression to accompany the visual. Combined, the visual journey could be read and understood as a reflection of me and my roles as I conducted the research.

Reflexive analysis and my visual representation are deliberately separated from other methods and results but are included in my thesis because it was a critical part of my methodological thinking. As Finlay (2002) wrote, "If the researcher is sincere in maintaining a primary focus on the participants or texts involved, returning to the self only as part of increasing awareness and insight, the problem of regress is bypassed" (p. 542). Although reflexivity was a critical part of my research, attention should be given to participant voices, observations, and documents, without being overwritten by constant divulgence and indulgence of my personal characteristics.

A visual journey of reflexivity

The following five-page visual (Figure 3) is a reflexive representation of my roles, influences, and importantly, myself during the year of design and data collection. Although the visual is intended to be viewed without additional explanation, I provide a summary for clarity. My representation consists of 151 coloured circles arranged on a plane. From top to bottom is a vertical chronological sequence and the distance from the midline represents the degree to which the entry aligned with my perspectives of time and

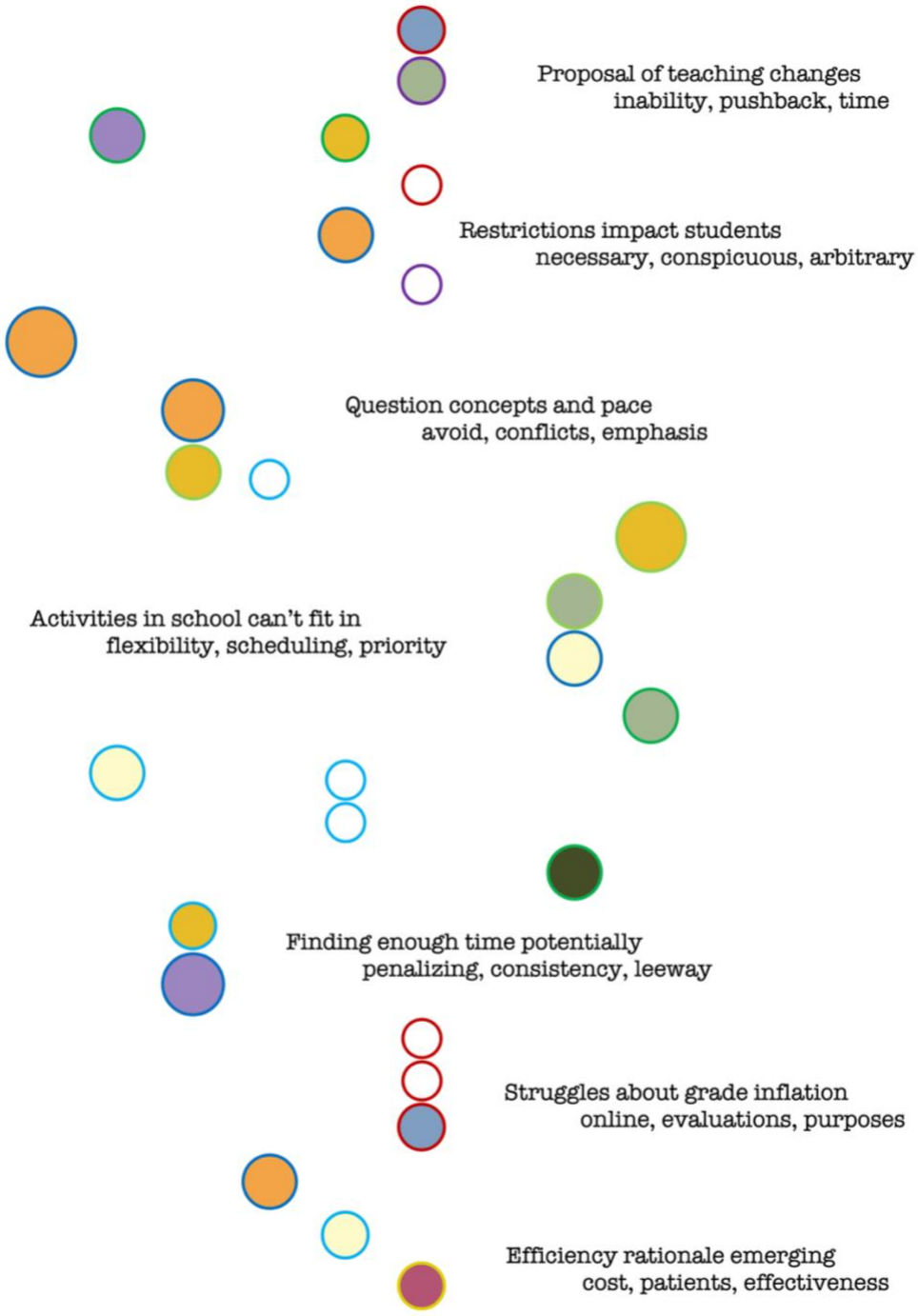
efficiency in pharmacy education. The circle's position towards the right is positive and towards the left is negative. The horizontal position of the text does not represent positive or negative feelings and is strictly aesthetical. The border colours represent the major category of the entry, and the fill colours represent the feeling experienced. These are indicated by the figure legend. The circle size represents the strength of the feeling, with stronger feelings as larger circles. The accompanying phrases and words showcase events or emotional expression.

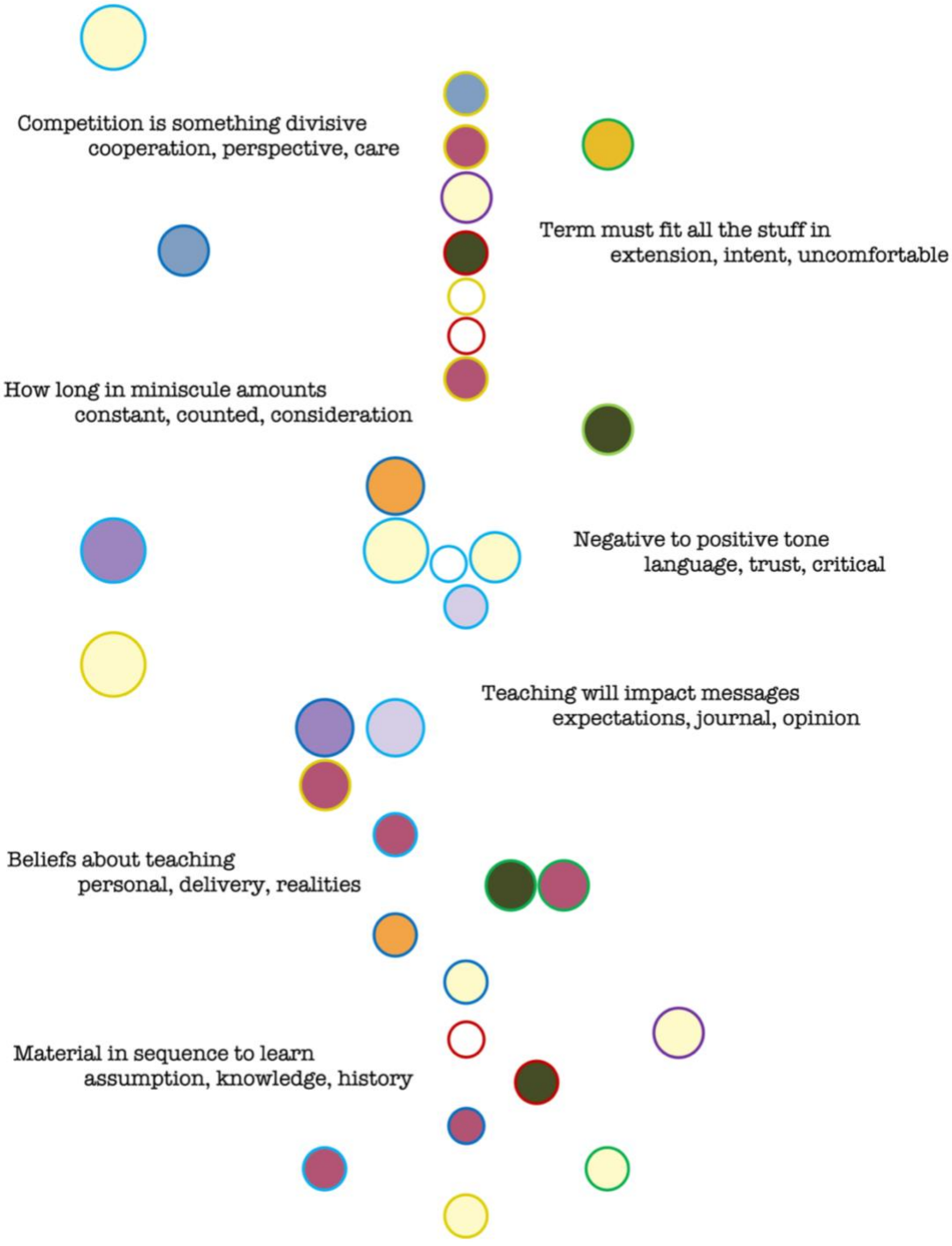
This figure shows four major aspects of my journal and thinking. First, many of the entries were naturally related to being a teacher as this was my predominant role at the school. Thus, my day-to-day work would have entailed teaching students and having conversations and meetings around teaching with colleagues. Second, my teaching and suggestions for teaching aligned more positively with my biases on the role of time and efficiency in pharmacy education. In contrast, moments of questioning teaching were often negative, labelled with frustration or annoyance. Third, I was often journaling about the ethics of conducting my research and the impact on my students and my colleagues as I studied the school. I strove to consider their wellbeing and used regular reflection to think about how my presence during observations and interview questioning could make participants uncomfortable. I think this aspect of reflexivity strengthened my case study by holding me accountable and helping me develop rapport with my participants while also forcing me to think carefully about my questions. Lastly, feelings of concern were also common in my entries especially with extra field notes and informal observations at the school. These notes mostly reflected my concerns for students in terms of how, what,

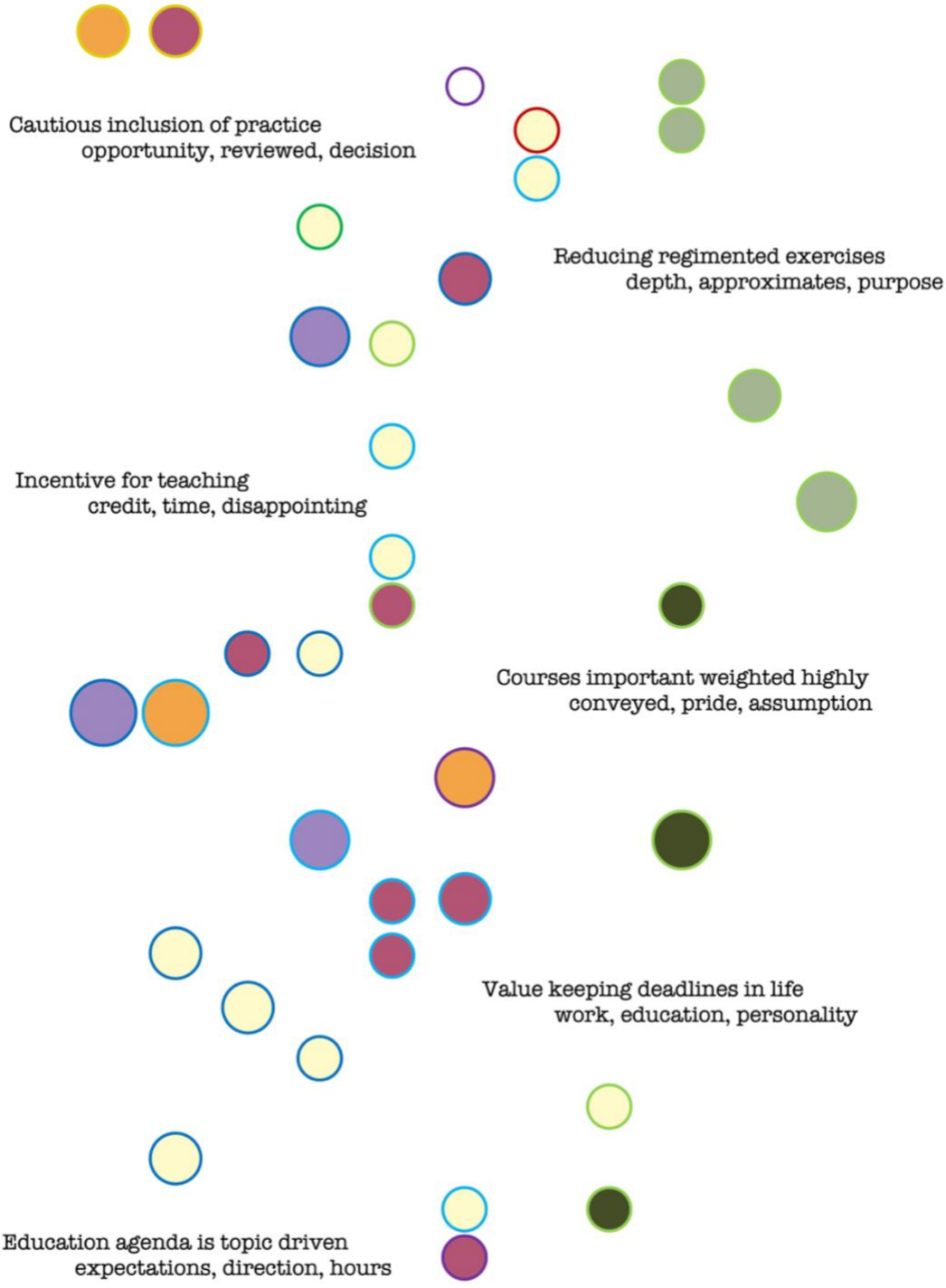
and why they were taught, but sometimes not directly related to time and efficiency. Importantly, my journaling of these observations often closely linked with ethical research practices, as being part of the school meant that I had access to the everyday life of school community. Therefore, it was crucial that I partition these observations from my research in consideration of the insider information I was privy to and respect for individuals at the school whether or not they were participants in my study.

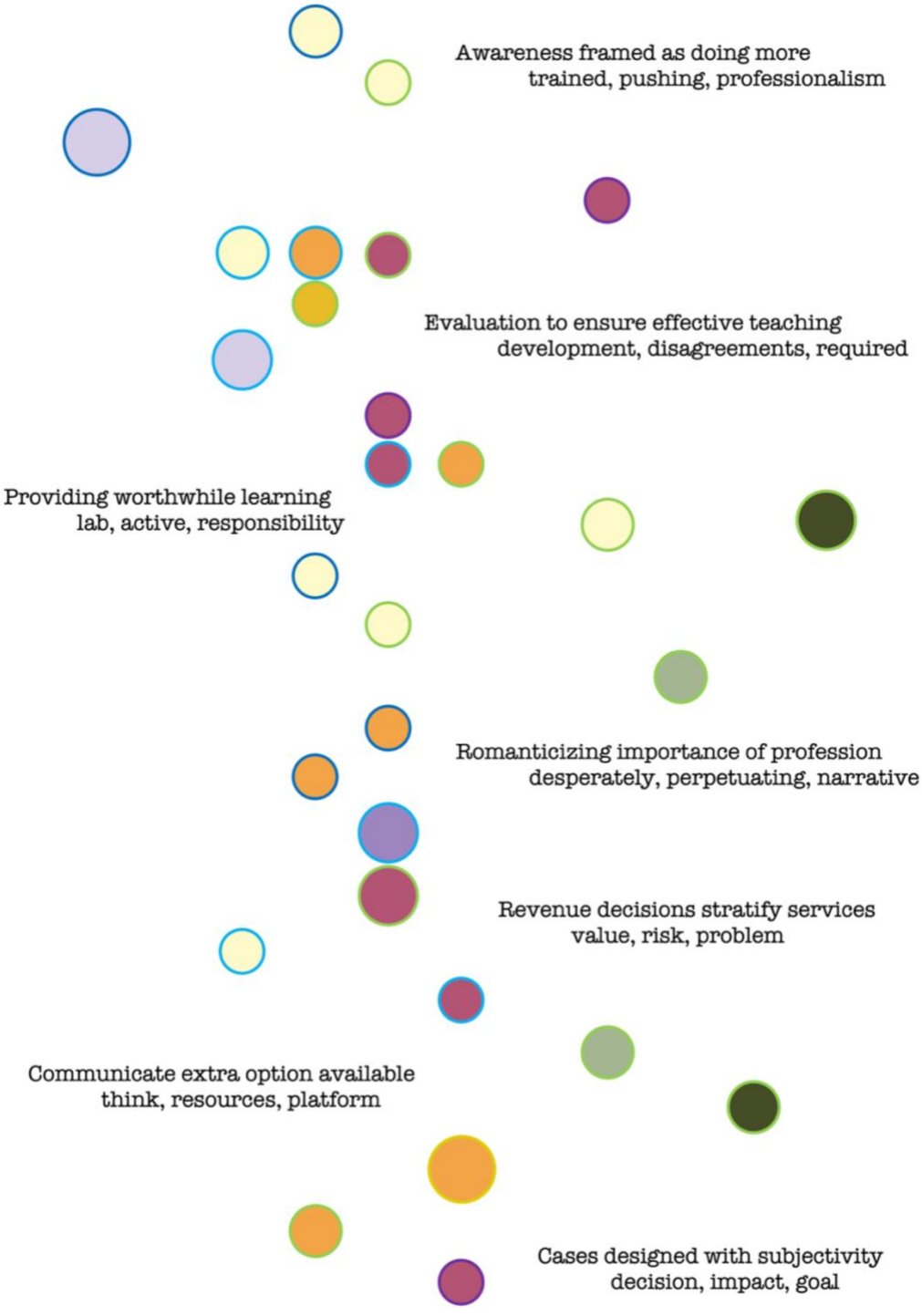
Reflexivity was part of my research process since beginning my thesis work and informed my study framework, methods, and analysis. This visual representation reflecting my thoughts and feelings as an educator, researcher, and pharmacist demonstrates my connoisseurship and engagement with the school, faculty, and students. By sharing my personal journey in this section, the trustworthiness of my case study and the descriptions, interpretations, and evaluations presented in the following chapters are enhanced.

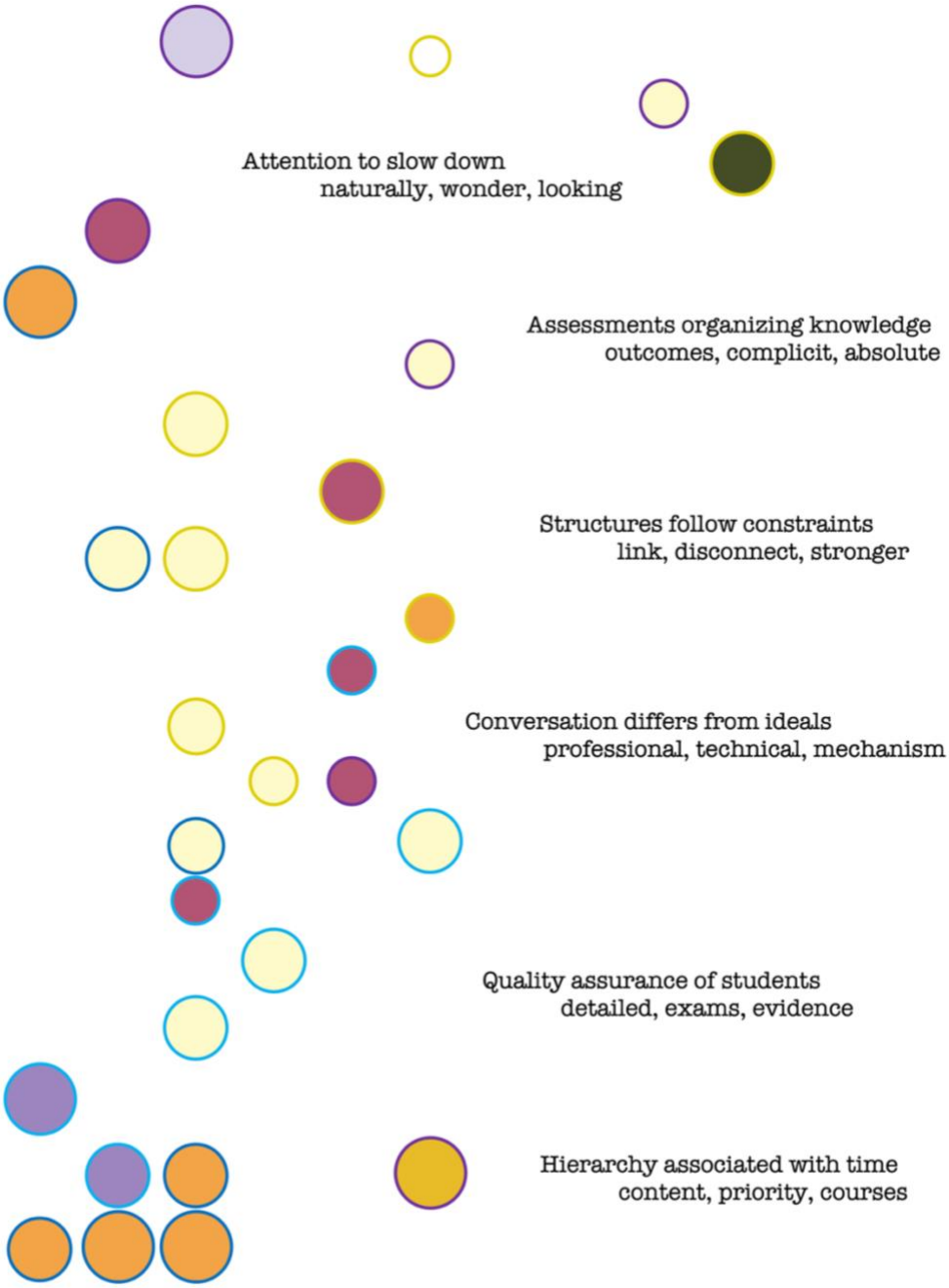
Figure 3. Visual representation of reflexivity


Proposal of teaching changes
inability, pushback, time
Restrictions impact students
necessary, conspicuous, arbitrary
Question concepts and pace
avoid, conflicts, emphasis
Activities in school can't fit in
flexibility, scheduling, priority
Finding enough time potentially
penalizing, consistency, leeway
Struggles about grade inflation
online, evaluations, purposes
Efficiency rationale emerging
cost, patients, effectiveness


Competition is something divisive
cooperation, perspective, care
Term must fit all the stuff in
extension, intent, uncomfortable
How long in miniscule amounts
constant, counted, consideration
Negative to positive tone
language, trust, critical
Teaching will impact messages
expectations, journal, opinion
Beliefs about teaching
personal, delivery, realities
Material in sequence to learn
assumption, knowledge, history


Cautious inclusion of practice
opportunity, reviewed, decision
Reducing regimented exercises
depth, approximates, purpose
Incentive for teaching
credit, time, disappointing
Courses important weighted highly
conveyed, pride, assumption
Value keeping deadlines in life
work, education, personality
Education agenda is topic driven
expectations, direction, hours


Awareness framed as doing more
trained, pushing, professionalism
Evaluation to ensure effective teaching
development, disagreements, required
Providing worthwhile learning
lab, active, responsibility
Romanticizing importance of profession
desperately, perpetuating, narrative
Revenue decisions stratify services
value, risk, problem
Communicate extra option available
think, resources, platform
Cases designed with subjectivity
decision, impact, goal


Attention to slow down
naturally, wonder, looking
Assessments organizing knowledge
outcomes, complicit, absolute
Structures follow constraints
link, disconnect, stronger
Conversation differs from ideals
professional, technical, mechanism
Quality assurance of students
detailed, exams, evidence
Hierarchy associated with time
content, priority, courses

Chapter four: Findings on time

Chapter four presents my findings on time and chapter five presents my findings on efficiency. The chapters address my research questions:

How are time and efficiency collectively perceived and enacted in pharmacy education?

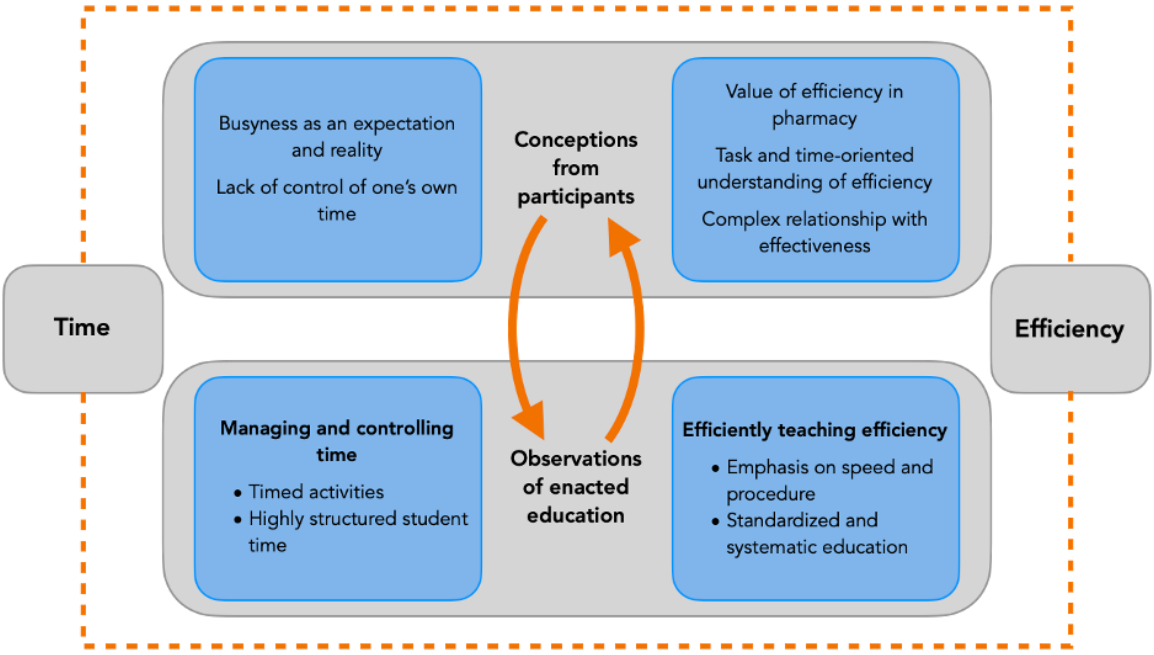
How are these concepts rationalized in formal curriculum?

What informal messages or assumptions are being given to students?

How do these concepts relate to the pharmacy profession?

Figure 4 depicts my major findings on the discursive practices in pharmacy education. It illustrates the close relationship between time and efficiency and how conceptions and the enacted education reinforce each other.

Figure 4. Discursive practices concerning time and efficiency in pharmacy education



Both chapters provide an integration of the description and interpretation aspects of Eisner's educational connoisseurship and criticism method. I present description and

interpretation together because they are inseparable in Eisner's method. This chapter presents my findings related to time. It is organized into three sections, namely, conceptions of time, managing time, and controlling time. I also provide an evaluation component at the end of each section to summarize my main thoughts on the evident discursive practices while a broader critique is reserved for chapter six.

A brief summary of findings from each method is provided first. However, the bulk of the chapter is written as the combined and comparative analysis of the course observation, interview, and document analysis data because they were strongly intertwined. To help with anonymity, participant quotes are written with participant chosen pseudonyms and gendered pronouns are alternated between sections. Section one uses she/her, section two uses he/him, and section three uses she/her. As per case study methodology, detail and depth are emphasized to allow for the construction of naturalistic generalizations (Stake, 1995).

Summary of findings by method

Course observation analysis showed the ways in which faculty members in all the types of courses I observed taught the importance of efficiency, particularly through the use of timed activities but also analogies to the constraints of time in real practice. Rationales for the constraints were often not given to students, but when they were, they were based on the existence of examinations or the logistics of practice. Observations also showed the structural efficiency of programs, through delineating certain time for content and topics. Students were reminded that time was limited for their learning as there was a need to fit as much as possible into the courses.

Document analysis highlighted the formal and explicit curriculum as defined by external organizations and how these were often incorporated verbatim into the school's documents. My analysis showed organized learning based on time especially in experiential education. The documents reinforced the notion that time was scarce in pharmacy education and there was a lot of material to be covered. The documents also demonstrated the extent of standardization of pharmacy curriculum and the efficient ways of organizing and structuring programs. There was emphasis on the efficient pharmacist as a professional goal, requirement for practice, and something to be learned.

Interviews provided the perspectives of students and faculty on the value of their own time and the pharmacist's time. It showcased how participants perceived the activities and coursework in a pharmacy education that emphasized time constraints and efficiency. The connections between practice and education were apparent as participants spoke about the different ways they understood effectiveness and efficiency. Many participants accepted these as realities of education and practice and agreed with the desire to achieve efficiency in pharmacy education.

Section one: Conceptions of time: Description and interpretation

The busy student in school

The concrete value of a pharmacy student's time was reflected through elaborations of personal and professional conceptions of time by students and faculty members. All student participants spoke of the importance of time in their daily lives as students. Time was described as something valuable, fleeting, and limited for the things students wanted to accomplish. Tomato described, "there's so much to do, and not always

enough time to do everything that you need to do in the span of your every day." Given its value, many students used financial terms and the colloquial expression of "spending time." Jim remarked, "As a pharmacy student, I almost see time as a currency, where, you know, you take some, and you put it towards your study, it's a currency that you have a limited amount of." And Captain America spoke about studying, "I think, for me, personally, I'm somebody that needs to spend maybe more time than other people." This was echoed by Kelly as, "I spend a lot of my time studying and preparing for classes."

Students were aware of how much time certain activities and commitments took, as Peach described, "when I'm in school, I'm very cognizant about how much time I'm spending doing something. So for example, time commuting would be a big one" while adding it was important not to waste time. Cards rationalized, "I didn't want my time to be wasted whether that was going to work when they really didn't need me there or I wasn't going to a class when I felt maybe the class was pointless." And Capsule likewise said, "I think you need to be very cognizant of time as a pharmacy student, because you don't have a lot of it." Students provided examples of school and study time, part-time work, extracurricular activities, and social and personal time. This led to conversation about how students handled these different commitments, and Parzival explained,

> I think probably a lot of people need to be reminded that there should be time focused elsewhere as opposed to school…there should be a lot of time to dedicate to other things, extracurricular, what you like, social activities, whatever it may be, you have to incorporate those as well.

A third-year student, AMC, recognized the amount of time she spent on pharmacy school related things, and felt it was too much. She stated, "I think pharmacy should occupy 50% of my waking hour at most and not 90% of it, as I was doing before." Peanut Butter

also wanted to ensure she had time outside of pharmacy school and clarified, “as a pharmacy student, time is always something that I want more of, especially trying to maintain like a social life, and like, I guess, an identity outside of school.” Students recognized that learning and doing well in school takes time and for some, it was a conscious decision on how to find and arrange the necessary time. For others, their experience of the school program was a little overwhelming. For example, Jane said, “in order for me to get a 90 I would have had to just like take caffeine 24/7, I would never sleep, but I got better as time went on. It was just hard in my first couple years.” Oreos commented on school time,

> I do think sometimes it can be unrealistic because everyone is different, and everyone has different things going on in their life. Some people live on their own and need to pay rent, and they need to work extra. Some people still live at home and don't need to pay rent so they may only work part-time, or they might not work at all.

There were expectations that pharmacy school would be busy, with a heavy course load. Tomato, a second-year student said,

> you kind of come to expect a lot of time constraints when you go into a professional program, like you just expect there to be a lot on your plate. Overall, I think in terms of most courses, it's pretty manageable. We've had a few courses where sometimes I felt, okay, maybe this is a little too much work for what I'll call the importance of the course overall, and just in light of how many other courses that we have to take, sometimes I'm like, do we need to have quite this much? But I mean, overall, I think usually it's fairly manageable, given what you can expect for the kind of program that we're in.

Although this case study was not looking or connecting to changes to teaching during the COVID-19 pandemic, student thoughts were captured during a period in which public health restrictions moved the program from on campus to virtual learning and students referred to this impact on their time. Cassidy explained,

> I actually found, going virtually, I almost had too much time, I was like, I didn't know what to do with myself. Especially compared to before, where it's kind of like you're in school for most of the day and just going around the hospital. And then going to work and then kind of fitting in other stuff into that schedule.

Cards also described how the virtual environment allowed for more participation in extracurriculars, "especially now with COVID, it's always these virtual things, and we can even probably attend more things, like even the Canada-wide events are just virtual, so it's very easy to attend." These students were busy in school, with a lot of schoolwork and an expectation that the busyness was just part of school life. However, school was not the only demand on time, and they further expanded on the myriad of pharmacy-related activities they had outside of school.

The busy student out of school

Although part-time pharmacy work was not part of the curriculum, all students spoke about their experiences doing part-time work in pharmacies, particularly in the community pharmacy setting. Students saw value in part-time work and dedicated time to pursue employment, which added to their busy student lives. For some, it was seen as a way to help understand and study what was taught in school, as Kelly described, "I find that because it is related to study and you're actually kind of studying while on the job." For Oreos, she felt "really disconnected from the pharmacy profession" during a school semester and since working, "I've kind of regained my interest and regained my hope in the pharmacy profession." Some students referred to the reality of practice versus the simulated nature of school. Cards explained that "pretty much my entire class, as far as I know, work part-time, and that's strongly encouraged, just so that you get the realistic viewpoint of pharmacy." For many including Alexa, Capsule, Jane, Derek, and Jim, part-

time work taught them about pharmacy practice in ways that they did not and would not get in school. Jim said, “that is when you really start to learn things and come out of your comfort zone with counseling and all of that.” Capsule thought,

> I think part-time work, is like the most important because especially if you're going to end up working in, well, I think in any setting, it's good to be aware of like, what insurances, which things are covered…there's so many things you don't learn in school that you actually see in practice.

And Derek felt strongly about the need for part-time work, “I don't understand how people can go through pharmacy school, four years of pharmacy school or five years of pharmacy school, and just get by on their placements and not work part-time.”

Most students thought that part-time work was encouraged more by their peers and pharmacists they knew rather than by the school or faculty. For example, Cards mentioned earlier that employment was encouraged, but thought it was more by peers. She said, “I don't think the faculty encouraged us too much or like really talked about too much.” Parzival also described, “I think there was more influence from my peers than from the school itself… hearing my friends get jobs early on, sort of, slowly built up to encourage me to get one and that's what I did.” Jane added,

> I did feel that a lot of my peers and people in the year above us and stuff always said, you'll learn the most out of working. And then when I started working, the pharmacist would be like, you made such a good move to start working now and early on, because you'll learn so much here, and you'll get to put all your stuff to use.

Cassidy similarly said, “I noticed a lot of my classmates as well were already working in pharmacies before started looking for a job too. So I was like, oh, well, everyone says, it's a good experience, classmates, profs.” However, the motivation for part-time work for Peanut Butter was internal, and she commented, “I guess more so it's pressure that we put

on ourselves, just because it's this idea of like, oh, I'll get ahead. The more I do, the more I'll get ahead." Sarah recognized some informal encouragement from the school by having students in practical experiences. She stated,

> it's not like, teachers are like always saying that we must work in a community pharmacy. I would say that they definitely say it's good. I know we did job shadowing in a community pharmacy this year. And I think a lot of times that pushes students to get a job in a pharmacy.

In the opposite fashion, many students thought that the school more than peers encouraged extracurriculars by placing a positive spin on participation. Tomato and AMC acknowledged that orientation speeches had faculty tell students to engage in extracurriculars. Tomato explained,

> they said that we basically will get the most experience out of, you know, our five years that we were there, if we kind of participated in some of the extracurricular activities that the school offers, just because there's so much more to pharmacy than just books and learning.

AMC added how school encouragement of extracurriculars was sent "through social media, like every time there is an activity, it is celebrated, praised, on all kinds of platforms. I mean, when you talk about it with a teacher, they will always say it's a good thing." And A. Turing claimed, "it's encouraged by the school to be involved in committees and stuff just to be able to direct the way pharmacy school works." Capsule recognized the use of rewards to encourage extracurriculars, "I think that being involved in extracurricular activities is more so encouraged by the school because you know, scholarships and that sort of thing." And John suggested "I know there's a lot of positivity about getting involved with any extracurricular activities, especially related to pharmacy, by a lot of upper years, you know, starting from orientation, as well as faculty members."

Such encouragement was not seen by most students as negative, although as described earlier, some students commented that activities could add up to a significant amount of their time—time that could be used for studying or schoolwork.

Faculty thoughts on time

All faculty spoke to the value of time, some with respect to the demands placed on them professionally and others on student time. For example, Watercolour reflected, "time, is the biggest component, I guess, of every facet of our lives, everything revolves around time." She added that the demands on time in academia can create stress,

> I feel like I probably have more work to do. But I don't have typically that immediate pressure. I'm free to work my 60 hours a week however I want in academia, so while it's pressure, it's not somebody breathing down your neck type of pressure.

Bill and Wynter also mentioned faculty time demands, particularly with teaching and assessment. Wynter said, "we spend all this time, for a lot of people and me included, for [topics listed], traditional lecturing. And that takes time on everybody, the time to prep the lecture, the time during the lecture, the students, and the exams." Diane was conscious of the demands on student time,

> There's always the issue too of our students balancing their time between study and life, I know that they struggle with that for a variety of different reasons, some just because of the personality and the nature of what attracts people to pharmacy, and as well as the fact that we select for the strongest performing academically. So I know that we in some ways build it into them, in some ways they come with it already built-in, this difficulty in achieving a balance between their education, the time that they spend, working and studying, and the time that they spend having a life outside of all of that.

Similarly, Daisy recognized students have other commitments, “for university students in general, I mean, with assignments, exams, you know, extracurriculars, just life in general, everybody needs some time management skills.”

When asked why such time demands were present for students, faculty suggested that time in the curriculum was limited so requirements and desires for what students should learn or do are condensed into the available time. DW Read explained, “So we have five years, well, ultimately, four years to teach the students. So time is a big factor. We have a lot that we have to teach them in kind of a short amount of time.” Jess similarly added,

> I think it's a point of trying to accomplish more within the time that we have. And I think it puts a great demand on both instructors and students, as far as time goes, to try to learn all of those different things within that amount of time that they're in school. Everybody seems to work really hard when it comes to both teaching it and the students themselves.

Farmer, a faculty member concurred, “the pharmacy program, it is a very hard program. It's very fast paced, there's a lot of assignments that they have to do, a lot of work they have to do, it is a hard program in my opinion.”

In consideration of student learning, a few faculty stressed the importance of taking time to learn. For Daisy, students would eventually become efficient, “I think while they're still learners, it's important for them to take the time to learn and to develop their processes. And I think the efficiency, particularly in the community pharmacy setting will come.” Similarly, Sam reflected on teaching online for the year, “I think remote teaching and learning has, if it's taught us anything, is that more time is a good thing when it comes to student learning.”

Outside of school and in contrast to the value students placed on part-time work, Jess commented that part-time work was not absolutely necessary for students to get experience given that the experiential program was of sufficient duration. She said,

> I mean, if they want to work part-time in a pharmacy to help hone some of those skills then that's okay, but I think that they really do get, you know, in six weeks for their first PPE to learn how community pharmacy runs, and the day to day skills and be able to apply rules and regulations and things like that to get a good basis for pharmacy. I think that's plenty of time.

She further added that the end of the program consists of 30 more weeks of experiential learning and that was enough practice. Sam knew that students work part-time and would observe the busyness of pharmacy from it, but cautioned what they were learning in those jobs,

> I think our students do so much work in pharmacies that they're seeing that all the time anyway. And then some of my concern, so a lot of our students work as assistants or technicians. I think maybe assistants. So they're seeing that busyness to get a feel for it. The only concern I have is that in that environment, they're actually acting as an assistant and not as an actual pharmacist.

Bill also recognized students employed in pharmacies and exclaimed,

> I think it makes them become cynical about what they're learning. And then the learning just becomes this task they have to perform, to get through the curriculum, so they can start working as a pharmacist and do things that are real, because half of them work anyway.

Thus, differences between work experiences and those provided by the school in classrooms or experiential learning were highlighted by both students and faculty. This disconnection will be discussed further in the section on timed activities.

The busy pharmacist

Explicit messages about the value of a pharmacist's time appeared in observations of all courses but in particular those belonging to the pharmacy practice stream. These

messages were reflected in and supported by statements about pharmacists' time in all student and faculty interviews. Such time-based practice thinking is reinforced by AFPC guidance, which stated,

> Setting aside the debate about the validity of current performance metrics in pharmacy practice, it is possible to estimate a target timeframe for gathering patient information from comprehensive and follow-up medication review performance metrics (expressed as billable hours) that exist in several provinces. In all provinces where reimbursement for such tasks exists, the reimbursement is assumed to include time required to gather patient data as appropriate to the comprehensive (e.g. CPI, BPMH) or follow-up (FPI, BPMH) task. (AFPC, 2017, User Manual Section A, p.9)

Pharmacist time was also explicitly explained in the social and administrative pharmacy courses I observed and often shown in a negative light. For example, students were told that pharmacists spending more time with patients or other health providers is undervalued by compensation. In some practice courses, students were also told that patients do not have an accurate perception of pharmacist time and therefore it was necessary for pharmacists to explain and specify time to a patient. The message was that pharmacists need to define and defend time such as the time to wait for the pharmacist or prescriptions, or the time required for prescription counselling services and taking a medical history. Despite the teaching that pharmacist time did not align with public perception, pharmacist work and services are often measured in time spent or hours and students in more than one course were asked to estimate pharmacist time required for services provided. Time is used as a measure of compensation and in some situations, calculated to the number of minutes. For example, students learn that reimbursement for medication reviews stipulate a minimum of 20 minutes spent with the patient. Therefore, the value of a pharmacist is inexplicably tied to time.

More directly, students considered the pharmacist's work, services, and compensation tied to time spent. Several students explained the business rationale. John suggested,

> I guess it would mainly be because there's a limit to the amount of money that either private businesses have or the government has to pay enough pharmacists or any pharmacy staff. Anyone in charge is going to try and have as few staff hired to attain kind of the minimal standard of patient care that they can. So because of that, you're gonna have less time for each patient.

Peach similarly targeted the business pressures based on their work experiences, "I understand that there is pressure from the higher ups, like my boss's boss… if someone asked me a question, and it took me 20 minutes to figure out the answer, that probably would not be compensated." Cards added,

> and it seems like in the community, we're being pushed to do all these extra things with no extra pay and no extra time. So such as like when the network [electronic patient health record] came out. So okay, well now you can check if there's double doctoring, the lab where you can see their kidney function, but I really don't think that there is enough time to do all that.

However Peanut Butter showed some hesitation on equating compensation to time while speaking about pharmacist prescribing services,

> I mean, you notice even now with the fee, I guess for like, interim supply, extensions and stuff, people, I guess don't take it for granted that we're just going to do it…Because in the past, pharmacies have always done that for nothing. I don't necessarily mean to say like, money, compensation is time. But obviously, when you're going to school for six years, it's nice to be compensated for the work you do.

Many students spoke about a pharmacist's time as they considered their future roles. They echoed what was taught in school such as the busyness of pharmacy, the rush of patients, and the lack of time a pharmacist has. For example, Parzival explained with respect to the pharmacist's responsibility and capability to answer patient questions,

> I think there's so much to do, probably because there might not be enough pharmacists on staff to answer these questions…I mean, the pharmacist is the one that is educated, and is the one that is taught and has gone through school to look up and answer these questions, whereas other people working in the pharmacy haven't.

Similarly, Captain America pointed at the problem of pharmacist accessibility in the community and an expanded scope of practice,

> as the scope is expanded, there's a lot more expected of community pharmacists, and not necessarily the resources given to them. So I mean, we always preach we're the most accessible health care professional. But as we take on more expanded services, we're still taking that approach. And it's like, well, we're not gonna always be the most accessible healthcare provider if we're expanding our services.

In contrast, students thought that pharmacists in hospital-based practice had more time. Peach, a fourth-year student mentioned, "now that I've done the hospital for like, eight days, they have, you know, way more time." Capsule similarly said, "I think with regards to time, I think hospital pharmacy is a lot different, the role of hospital pharmacists is not on the time crunch." And Sarah referred to pharmacy as a business, "I think because it's a business at the end of the day, and that's the difference between community pharmacy and hospital pharmacy."

Faculty members' thoughts aligned with students, for example, Caffeine explained, "there are a number of competing demands that we're consistently asked of, and sometimes, you feel like you don't have enough time in the run of your day or the run of your shift to meet all those demands." She added this was a significant barrier to pharmacists practising to their full scope. Trooper expanded on this and pinned technology as one reason for the demand on a pharmacist's time,

> So with technology, that's created more demand on time because there's an expectation that you use HEALTHe NL, that you use the DIS [drug information system], that you look up clinical information. So all the things that didn't exist or didn't put demands on your time 10 years ago now do. So that that's probably one measure, the complexity added by health systems has really driven pharmacists, so what took you five minutes before, may take you 20 minutes now, because you have all those avenues that you have to research. And it's not that you didn't want to research them before, we just didn't have any access.

Several other faculty members spoke about the expanded scope of practice and pharmacists taking on more work. Watercolour expressed in detail,

> Well, I think, we're not very good at delegating. Our scope of practice has expanded. In some ways I think we're probably our own worst enemies as far as taking on extra tasks and roles. I think it's part of our personality. I think pharmacy as a profession attracts a certain type of personality, a type A personality, you know, a person who's anxious, who perhaps needs and values time management as a way to manage that anxiety, who values exactness, orderliness, efficiencies, who takes pleasure in organization and being busy and a sense of reward or fulfillment in taking on all these things, and then getting them done. Look at me, look at all that I've done. There's a sense of satisfaction, I guess, with doing that.

Meanwhile, Sun commented on time related to a pharmacist's work,

> I think of time in terms of pharmacists working in community…I think about the number of hours that we spend in our pharmacies a day or a week and how burnout happens and, just how overworked pharmacists are in general.

Samantha also thought about pharmacist work in hours spent, "the concept of time would be the hours spent and how long you're actually assigned…time is very much related to shifts, so you're working kind of your 8-4, your 12-9 or that kind of thing."

Similar to student perspectives on the workload of a pharmacist, faculty member DW Read listed a number of activities and responsibilities pharmacists have in the workplace. She described how pharmacists are pulled in many directions,

> So we're filling prescriptions, we're checking all that. But then we're also being asked questions by patients coming in, calls coming in from doctors. So that's

> another and then we also have on top of that, our expanded scope. And so we have a lot of well, extra documentation that we have to do. That takes time. And then you're trying to do everything in the day, and it's just a lot. And also now we have immunizations, that's coming in, that takes a good chunk of your time to be able to prepare that, administer that, monitor the patients while also still filling the prescriptions, while also still answering the number of questions. So there's just, I find a lot being added, which is great, but we don't have kind of the tools to be able to do everything in say the run of the day.

Diane contemplated potential factors leading to a pharmacist's lack of time and listed lack of delegation, perfectionist personality, business pressure for volume, workload and staffing issues, and patient demands. Importantly, Diane distinguished between community and hospital pharmacy similar to other faculty members and students. She mentioned,

> I do think that it's different if you look at the different types of pharmacy, right? … so I don't think those same pressures exist. I think there's more of an opportunity to go deeper into your activities, you know, patient medication reviews and things if you want, and get that more detailed look and make those more detailed suggestions and recommendations. And if you're in a clinical pharmacy position in hospital, you're much more removed from the technical aspects that could or should or have been handed on to other professionals, you know, with slightly different but overlapping scopes of practice.

Faculty thought the workload could be lessened if pharmacists had more staffing and administrative help. For example, Rose responded, "So if we did have regulated technicians to take care of the technical task, then that would relieve the pharmacist to do all the professional services." Yet according to Rose, students still wanted to have dispensing as part of their education, recalling "a student once told me that, you know, you should give the students like 20 prescriptions to fill in a lab and check them." Bill also commented,

> time, it affects the ability of the pharmacists to do the things they need to do because there's only so much time in the day. And a lot of that time is filled with

> very technical functions or administrative functions, as opposed to cognitive functions. And so that has historically been, a problem is that time has not allowed, basically, for the profession of pharmacy to advance forward.

Therefore, for both faculty and students, the idea that pharmacists could do more was welcomed, appreciated, and demanded, except when it came to dispensing prescriptions or administrative duties.

The pharmacist's time depends on someone else's time

Pharmacist time is dependent on other people's time, in particular, the patient and the physician. In almost all courses, students were given the message that pharmacists need to contend with patient expectations of wait times for their prescriptions. Students were taught to thank the patient for their time after a service was provided and also to make themselves available to patients at any time in closing statements. One instructor also showed a graphic in class exemplifying how pharmacists and the pharmacy profession highlight the ability to give advice without an appointment. Faculty member Wynter summarizes this demand on time, "there's often things that are, have to be done in a very timely manner, whether you have, you know, a physician asking you a question directly, or a patient asking you a question directly."

In an experiential placement manual, the concept of wait times and assumptions of patient understandings of pharmacy practice were evident with a communication-based sample scenario described as,

> A patient enters the pharmacy and tosses a new prescription on the counter. When she is told it's going to take about 20 minutes to prepare, she responds angrily and loudly, "Twenty minutes! You've got to be kidding. I had a 2 p.m. appointment with the doctor and he didn't see me until 3:15. You people must think we have nothing better to do than wait on you! Besides, all you have to do is put a few pills in a bottle. What could take so long?" (PPE 305 Manual, 2020, p. 9)

In this scenario, the pharmacy student is tasked with explaining and defending the value of their time to the patient.

In a pharmacotherapy course, the instructor explained that pharmacists and other healthcare professionals have limited time with patients, although time with the patient is considered mutually beneficial. A similar point was made in pharmacy practice and administrative pharmacy, where time limits are barriers to patient communication or documentation, but that it is important to give one's time for the patient. However, cases and scenarios presented to students based on lack of pharmacist or patient time were abundant such as having a pharmacist on break or extended wait times due to busyness. Time is measured as part of the urgency, onset, and duration of therapeutic interventions as instructors explain how and when pharmaceuticals are used, for example, an antibiotic for an acute infection. Part of this explanation included the time when pharmacists should follow-up on the interventions such as, 2-weeks after starting a particular weight management medication, with specificity desired. NAPRA (2014) competencies reiterated the importance of time to pharmacy practice in the provision of appropriate patient care, as pharmacists are required to "determine the patient's health goals and optimal therapeutic outcomes, specifying measurable endpoints, target values and timeframes" (p. 12).

Student and faculty interviews corroborated with observations and document analysis to clearly show that a pharmacist's time was dependent on patient time. The pharmacist relied on the availability of patients, the willingness of patients to participate in the services they wanted to provide, the demands of patients and a general sense that

even though pharmacists were professionals, patients held power through time. This was most evident in interviews with several students about patient wait times for prescriptions. Capsule explained, “you're always on a time crunch because people are always waiting for prescriptions, they're coming back at a certain time, and you always need to have things done… There's always a time put on to the task.” Captain America described counselling different kinds of patients, when some want to talk and others do not, “So if they seem like they are in a rush, it's like, okay, give out the three big points they need to know and let them go on their way kind of thing.” And Tomato connected this concept back to why and how timed patient-care assessments are used in school,

> you're not necessarily going to have a patient who's going to be willing to cooperate with you for more than seven minutes. So if you're going to hit all the information you need to kind of, be quick and get in just the most important things.

Kelly related timely work to the ability to satisfy a patient’s mood, “Being able to do that within at least a couple minutes, so that the patient or the customer isn't like getting agitated or something like that.” Sarah brought up the need to be quick in the community setting, but related it to a specific patient situation, “I think community it's like, go go go all the time, and you're trying to check all these prescriptions and get them out. So, you know, patients aren't in pain waiting in your waiting room and stuff.” This concept of a patient waiting in pain, requiring antibiotics, or in acute need of care was brought up by Kelly and other students and was echoed by several faculty members. For example, DW Read depicted a teaching scenario where,

> The pharmacist had a long wait time and the patient came in, they're in pain. So what do we do? Do we advance them in the line or do we make them wait? So that's one way that we get students thinking about time, thinking about their

> patient, providing that care in a timely manner, this patient's in pain, are you going to make them suffer?

More directly, Samantha described a situation, “So time was of the essence and the fact that this patient's in the bed right now, a lot of times, you can't wait till the next day, because by the next day, they could be dead.” She further explained the pharmacist had to, “prioritize and make sure that you do it within that time period. Otherwise, if you kind of put it off and wait till the next day, it may be too late in terms of the patient care.”

Some faculty reflected on student comments they had heard on the limits of a pharmacist’s time and mentioned they would address these concerns to give students a sense of ownership of their time. For example, Caffeine would convey to students,

> you really have to find that balance between not only providing optimal patient care and fulfilling the other duties that you have, but also sort of thinking about your own professional satisfaction as well and sort of your desire to provide the services to patients.

This was a sentiment echoed by Pharm One, “My message to students has always been that their practice is their own, and that they should never feel uncomfortable in terms of being pressured to get things done in a certain amount of time.” And Sam also reflected,

> the students will make comments about how pharmacists are stretched to the max in community in particular, and they'll talk about how they don't have time to do professional services, because they're involved with checking so many prescriptions in the run of a day. And so when they bring up those points, I try to have conversation with them about it as much as I can.

Rose also recognised that students had some experience in practice settings and thought they could bring some of that back to the school, “being out there and seeing it and then coming back to the classroom, I think is helpful in expectations of what pharmacists do and the time constraints they have.”

In terms of physician time, the most common example provided by faculty was on documentation. DW Read stated,

> we also try to show them that everyone's time is important. So say, when we're showing them how to document, we focused a lot on this…of writing a nice concise note, not adding any irrelevant information, because everyone's time is important. And you want to get the most important information for that physician who's reading it or anybody else, any other healthcare provider to see it quickly and get the most important information out there.

Similarly, Bill explained how she addressed this in their teaching,

> I teach them about trying to get to the point as quickly as possible to know exactly what you're looking for. So really understanding the question. And then once you understand the question, and you found reasonable answers, present them to that person, whoever it may be, patient or practitioner in the most succinct way possible, so you're not blathering on about something, because no one has the time these days in healthcare in the real world.

With respect to simulated interactions with physicians, Sam commented about OSCEs, "it's artificial because I don't feel that in real life that time expectation is realistic. Like, for example, you'd never really have seven minutes to speak with a physician face to face. Typically, it's a lot shorter than that." Considering time demands of other professions, Shelly commented,

> I think lots of other professional programs are dealing with time and efficiency as well. Because when you're out in private practice, no matter what type of private practice that is, whether it's law, or engineering, or whatever, physiotherapy even, the more people or projects, things you can pump through… I don't know if that creates stress in students right from the get-go or not, I'm not really sure. I'm not sure if it's conveyed very differently across other curriculums.

Thus, faculty recognized that the lack of time was not unique to pharmacy, rather, it could be broadly applied to other professionals.

Section one: Conceptions of time: Evaluation

As part of evaluation, the general question asked is "what is of value here, both for those involved and for the educational enterprise generally speaking" (Uhrmacher et al., 2017, p. 50). More specifically, for my work I ask what is of value in my case and possibly for pharmacy education in the broader context. My evaluation, in the spirit of Eisner (2002), explicates the complexity of my findings and adds to this complexity, attempting to bring meaning beyond a surface level and make sense at a deeper level.

For example, in the "busy student in school" section, students disclosed their belief of the busy student, some accepting the scarcity of time and others protesting the amount of time needed to succeed as a student. Jim called time a "currency", Cards did not want her time "to be wasted", Capsule said "you don't have a lot of it", Peanut Butter said "time is always something I want more of", and Oreos thought "sometimes it can be unrealistic". However, while these sentiments were commonly expressed, time was connected with obtaining higher grades, as in Jane conveying, "in order for me to get a 90…I would never sleep", and Tomato accepting these conditions of time as in, "you kind of come to expect a lot of time constraints". Thus, time was matter of factly accepted as part of a professional program, while at the same time, thought to be demanding and sometimes questioned.

In the "busy student out of school" section, students similarly accepted the expectation and encouragement from peers and faculty to engage in extracurricular activities and part-time pharmacy work despite the demand on their time. Part-time work for Cards was "strongly encouraged", Parzival referred to "influence from my peers",

Cassidy said “everyone says it’s a good experience, classmates, profs”, and John said there is “positivity about getting involved”. The discursive practices of encouragement were indicated by some students as Sarah explained, “job shadowing…pushes students to get a job” and AMC said activities are “celebrated, praised” on social media platforms. Furthermore, students thought participating in these activities were important for success. For example, Derek struggled to understand how students could “just get by on their placements and not work part-time”, Capsule mentioned eligibility for “scholarships”, and Peanut Butter claimed “the more I do, the more I’ll get ahead”. Therefore, staying busy with activities out of school paralleled the busyness in school and was thought to be necessary for student success.

Faculty thoughts on time and expectations for students were reflected in the ways they spoke about their time as educators. They conveyed the stress of time constraints in real-life as in Watercolour’s “everything revolves around time” or Wynter describing how lecturing “takes time on everybody”. A few suggested more time to learn was beneficial for students, but many gave time as the limiting factor because there was a lot to teach. For example, DW Read mentioned the “short amount of time” and Jess suggested faculty were “trying to accomplish more within the time” of the five year program. Yet despite recognizing the busyness of students in school, faculty were mostly supportive of students having part-time pharmacy work. Only a few faculty were critical of student experiences in the workplace, such as Bill suggesting that students “become cynical” and treating learning in school as a “task they have to perform” to get to work as a pharmacist. Although admitting that teaching and learning takes time, faculty impetus

to teach more content coupled with encouragement of pharmacy part-time work reinforces the busyness of students.

In the "busy pharmacist" section, students and faculty criticized the workload of pharmacists. For example, Captain America said there is "more expected of community pharmacists", Caffeine said "you feel like you don't have enough time", and Sun commented how pharmacists are "overworked". Work was measured by minutes and hours and tied to compensation as in the AFPC guidance "reimbursement is assumed to include time required". This was echoed in my observation in a lecture that medication review reimbursement stipulates 20 minutes with the patient. Compensation was then tied to business practices as John mentioned "few staff hired to attain the minimal standard of patient care", Sarah commented "it's a business at the end of the day", and Cards claimed "no extra pay and no extra time". One solution presented to students in my observations was that pharmacists need to explain the value of their time to patients. The second solution was to remove pharmacists from certain burdensome work as Diane said of the "technical aspects", which Rose said would "relieve the pharmacist". However, my analysis on the busy pharmacist showed that the pharmacist's time was not about providing better patient care. Instead, students and faculty shared strong attitudes towards doing more and receiving compensation for pharmacists' time.

Lastly, the messages received by students that a pharmacist's time depends on someone else's time created an environment where the professional has little control of their time. Students were taught that pharmacists give advice without appointments. Speed of customer service was prized, as in Kelly recommending doing work so the

customer “isn’t getting agitated”, Captain America saying “let them go on their way”, and Sarah adding “get them out”. This reflected an underlying creed of reducing patient wait time for services or prescriptions and the requirement that pharmacists attend to multiple demands from others. For example, the PPE manual described an angry patient that “tosses a new prescription on the counter”, DW Read explained the importance of concise documentation because “everyone’s time is important”, and Bill’s thought that “no one has the time these days in healthcare”. Thus, there was an expectation that students learn how to manage time and a necessity for faculty to teach this skill. This became a common thread I describe in the subsequent sections on managing time and controlling time.

Section two: Managing time: Description and interpretation

Alleviating busyness through managing time

The sentiment that time needed to be managed was apparent and strong across all student participants. They often described that balancing time, particularly between school and work, was paramount in their lives as pharmacy students. Sarah stated,

> you're kind of balancing your class time with your work time and then also your study time. Your study time is everything. So like trying to fit in how much time you have to learn the material that you need to know, that is a really big role in your life as a pharmacy student.

Jane offered an almost identical sentiment with, “as a pharmacy student, I guess that's the biggest thing is time management and organizing your time and using your time wisely, and making sure you got the time to work and study and go to class and everything.” And students frequently spoke about prioritizing, as John explained,

> I guess a big part of it is having to prioritize. There are a lot of, in any day, especially during a semester, you need to set aside time to study, time to do any sort of extracurricular things you're doing, maybe involved on a pharmacy related committee, as well as working. So you need to set an appropriate time for each one of those and prioritize based on what's important, or what's most urgent at that time.

Oreos talked about prioritizing his time but having to choose between activities in order to focus on school,

> I was able to either cut certain aspects of my personal life out so just like reducing my hours at work or not doing as many extracurricular activities, and basically just prioritizing the activities in my life, and making sure I have enough time because I think it's really important not to stretch yourself too thin.

For A. Turing, the priority was schoolwork as opposed to extracurriculars suggesting, "I'm not very involved in extracurricular activities outside of pharmacy school and that's primarily just to pay attention to my studies and make sure I'm doing the best I can there and get some footing with the program."

Although time management was seen as critical to the students, most students suggested that their time was manageable, and that school was reasonable in terms of the time commitments required. Derek described, "I think the academic part of school is fine…I mean, if you're looking at just your nine to three or nine to four school day, it's essentially not much." Similarly, Alexa stated, "I'm not really ever worried about it, no, I feel like our course load obviously in pharmacy school is pretty heavy, but it's manageable." Jim added that available time varied during the semester,

> At the start of the year, there's not much going on so you almost have too much time. As things start to pick up, you get your first set of midterms, and you put your head down, that's when you know you have too much work and not enough time and the scale kind of tips in that direction. And once you have your first midterm, it almost seems like it fast forwards because you never really look up from that point on.

For faculty, there was also consensus that time management was important. Many referred to how students need these skills in their future work as pharmacists and some connected managing time to student life. Wynter said, “time management is an important skill that I think we have to have as pharmacists and we need to instill in our students.” And Shelly echoed, “I think in most pharmacy roles, whether they're direct patient care or non-direct patient care roles, time management is really critical to be able to do your job well.” Daisy similarly described, “pharmacies are very busy places, and you often have people waiting to pick up prescriptions, waiting for replies, so I think time and being able to manage time is a significant part of pharmacy practice.” Therefore, some faculty emphasized time management in their teaching, for example, Trooper said, “I try to teach and guide students, hopefully a little bit around management of time, planning ahead correctly for time…So that they do optimize that time, because time is something that you can’t put back into a genie bottle.”

Although time management was important, several faculty members mentioned the concept of time was not explicitly discussed with students but they acknowledged that concepts were informally taught in various places in the curriculum. Sam remarked,

> I don't talk to the students a lot about time really. I’ve got to be quite honest in saying that. We talk sometimes about how you need to be more efficient than you are in lab, like you're not going to have three hours all the time to complete these tasks. But I don't really focus on time as a concept or construct.

Jess thought about students in experiential learning and said,

> I don't know that time is something that really plays a big role. You're making me think about, do we talk about these things now? And I'm not so sure that we do other than talking about them kind of integrating themselves into the workflow of the day to day, talking about preceptors having time to spend with them, and telling them that they have to be responsible for their own learning, I think that

> might be one of the only things where we kind of talk about time, and what they're going to experience and how to prepare themselves for that.

In courses he taught, Shelly explained, “I mean, there's deadlines and things like that. But in terms of instructing and talking about time management, that hasn't been as critical in these courses.” And Sun contemplated that encouraging multitasking and having students organize their own time might have some benefit, “I think sometimes that might be a better way of learning because they're not thinking specifically about time management; rather they're learning it without even really overthinking it.”

However, faculty members thought it was necessary to teach students how to multi-task and manage several competing demands simultaneously. More directly, Diane commented that it was important in pharmacy education to help,

> our students practise that and feel what it feels like to do the work of pharmacy, and how much time that takes and how much effort needs to be put into different types of activities and the different amounts of time they eat up.

However, he also acknowledged that this aspect of time management may not be brought up in the classroom setting as much as through practice experiences, “I'm not sure that we teach it very well. But I'll say, a lot of where the students get that experience in their education is primarily, the most accurate representation would be on their experiential courses.” However, Watercolour also acknowledged faculty could be demonstrating time management to students, although they may not be doing so in a beneficial way. He said, “I guess we're not good role models in the sense that I think that they perhaps, feel the stress from us to be perfect, to be exact, to be efficient, to handle all these different things.”

With that in mind, faculty thought that time management was mostly taught in pharmacy practice courses and experiential components of the curriculum. From the pharmacy practice standpoint, it was specific timed activities or the activities to be completed during lab time that reinforced time management skills. Rose explained,

> We do try to have timed activities. When they do their OSCEs for example, their interactions, they have a time limit on those… We also give them multiple activities, so they do have to manage their own time in doing those. It's not just one activity, they have to manage their time to get all activities allotted in a lab done within a specific timeframe. So trying to get them to not spend too much time on one activity, so they got no time left for the others.

Sam also commented on the number of activities in a standard three-hour lab, "typically, we give students about three activities per lab, and I think that's consistent across our skills courses." And faculty member Wynter remarked how,

> we're creating an environment where they do have to do multiple tasks, and most of them are patient care related. So I think if they really think about what they do in our pharmacy practice courses in our labs. If they did take time to reflect on it, I think that they would think that we are trying to prepare them to, you know, answer a question from a doctor, talk to a patient about something, research something you know, take a phone call, whatever, you know, juggle those things, and maybe check prescriptions.

Captain America, a second-year student, accurately summarized what faculty were trying to teach,

> Because in a community pharmacy, which is I mean, predominantly the way that we're kind of taught to practise in pharmacy school so far at least, it's very busy, and you can't spend all day working away on one task, you need to be able to manage your time better or well.

Relatedly, several faculty members explained that students make decisions about how much time to spend on various demands of school. Similar to student perspectives, faculty thought these decisions were usually made based on grades and assessments or

perceived value of learning. Wynter remarked how students, “have to determine how much time to spend on things, and they can base that maybe on how something that's maybe gonna be worth marks versus not worth marks or that they feel is more important than something else.” Similarly, Sun stepped into students’ shoes to consider, “How do they even prioritize that, like what's evaluated or what's most valuable to them? And, if I don't get this done, does that matter today?” A few faculty commented on how graded work led to students requesting more time, as Caffeine said, “I find that that's a big driver of students requiring extra time when they're in these courses, because they know that they're being marked.” In terms of perceived value, Pharm One shared some responsibility for influencing what students thought,

> I think that's conveyed to students and they think there is more time spent on a topic, it's more important, then they should study it more. So they dedicate more time to it and whether or not it's appropriate to be dedicating so much time to a particular topic is questionable.

Diane voiced similar concerns and tried to imagine what students’ thoughts were and considered,

> I don't know where they might assume that value lies. Is it in the way we intended in that it's important for your work because you're going to see it a lot? Or is there some other value judgment being made there on behalf of the student? Because we focus on something in that disease state, is it more important than another disease state or for its own sake? I don't know. That obviously isn't the case and hopefully, that's not the message that students are getting, but it certainly could be.

In summary, faculty thought that they occasionally provided opportunities for students to learn time management such as through activities or some instances of role-modelling. However, it was largely the responsibility of the student to alleviate the busyness of

school through making choices. These choices with respect to time were associated with being a professional.

Professionalism through managing and spending time

AFPC's (2017) Professional Role references time and professionalism, where students and pharmacists are expected to "set professional and personal goals, priorities and manage their time to balance patient care, workflow and practice requirements" (AFPC User Manual Section E, p. 3). Within this competency, the enabling competency states a student "is diligent, reliable and timely in completing assigned responsibilities" (p. 14). Time management was one of the concepts that AFPC chose to strengthen in the updated educational outcomes in 2017. They identified that,

> With the multitude of knowledge- and skill- based competing priorities within time-constrained curricula, and professionalism being a challenging concept to define, teach and assess, there is potential for it to appear as a less prominent priority than other more tangible competencies, by mistakenly assuming it is organically acquired as students move through a curriculum. (AFPC User Manual Section D, 2017, p. 2)

This statement provides two ideas. First is the acknowledgement and acceptance that a time-constrained curriculum exists where programs need to decide what to teach, which will be discussed later. Second is the message that programs need to explicitly teach professionalism because it does not occur naturally. Time management is an integral part of professionalism as stated in the educational outcomes and this directly connects to the various ways that the school teaches and assesses professionalism.

Students were told in classes and labs that time is a limited resource and therefore as professionals, they need to use time wisely. Importantly in my course observations, student time use and management was listed as a measure of professionalism. It was

assessed formally in self and instructor evaluations through punctuality and completing tasks, assignments, or labs on time. Furthermore, students were asked to reflect and compare their work with peers in terms of time and effort spent on group projects in several courses. Displaying professionalism through contribution of time was the expectation and these formal student assessments of their peers were used by instructors to gauge participation and were sometimes reflected in student grades. In this way, time spent on a project was directly related to the value of student work. As a professional, managing and devoting their time was critical for success and students were also explicitly told in classes and written course introductions to be engaged in their courses and check online materials at least daily. However, in one observed course, students were told they should leave or not attend class if they felt they had other commitments such as needing to complete other work. In context, it appeared to be in relation to the students potentially disrupting class. It is unclear why this needed to be said but importantly, it emphasized the value placed on the faculty members' and students' time.

Similar to AFPC (2017) outcomes, NAPRA (2014) standards include time management and pharmacists must "demonstrate the organizational and time management skills necessary to effectively prioritize, organize and manage patient care." (NAPRA, 2014, p.15) And the Standards of Practice outlined by NLPB (2015) also placed time as a requirement for different pharmacy operations, from setting minimum opening hours of 36 hours per week to stipulating the need to process prescriptions immediately,

> The pharmacist or pharmacy technician must ensure that the prescription is accurately entered into the patient's medication profile, as if it were to be

> dispensed that day, and checked within a timely manner. (NLPB, SOP Community, 2015, p. 1)

This thought extended to lessons on making sure pharmacy staff are not wasting time. For example, pharmacist time should be saved where possible and technology is one way to do so. Students were encouraged to learn how to use information resources to save time in simulated activities, which would translate to real practice. And in connection to saving patient time, which is reflected in pharmacist time, computer and robotics technology serves to reduce prescription wait time. Lastly, it was explained to students in several courses how counselling patients and other professional activities such as documentation saved future time for the pharmacist and physician.

Although students are consistently exposed to time constraints, they are reminded that future learning is necessary as a professional. The NLPB Code of Ethics (2021) implores that "registrants engage in lifelong learning to maintain and improve professional knowledge and skills" (p. 5). The concept of lifelong learning and that undergraduate education does not afford students all they need to practise in the future led to a thought among many faculty that there was too much content in the curriculum. Jess explained,

> But sometimes, I think we try to teach them too much. And as long as the students are getting a good basis and the key elements of pharmacy practice…I think the main topics should be important and time spent on that. But they should understand how to find that information on their own and be able to incorporate that into practice.

Regardless, students were taught that learning as a professional should be thought of as goals, whether it was the outcomes of individual classes and activities or broadly as pieces of knowledge. These were displayed with lectures and labs that specified learning

objectives before students started class or the activities. But perhaps the biggest reinforcement of this practice was when students were asked to create their own learning activities. Particularly in experiential education but also in peer teaching and presentations, students were encouraged to write goals and objectives. These goals are in turn partly defined by their timeframe for achievement with the acronym SMART used often. In experiential rotations, learning objectives were required to be SMART, which stands for specific, measurable, achievable, relevant, and time-bound. Students would read that,

> Every goal needs a target date, something that motivates you to really apply the focus and discipline necessary to achieve it. This answers when. It's important to set a realistic time frame to achieve your goal to ensure you don't get discouraged. (APPE Manual, 2021, Appendix A)

The time-bound aspect suggests to students that learning is similar to project management or completing tasks, and subject to time-constraints. And thus, the management of time as a marker of professionalism extends to learning as well.

However, in student interviews, students did not explicitly link managing time to professionalism in the same way they spoke of the value of a pharmacist's time. They spoke about their commitments to school or work but did not suggest that managing their own time was linked to being a professional despite the regular assessments of timeliness in their courses. However, for AMC, the connection between time spent and professional behaviours such as commitment and dedication were implied,

> The more time you put in, the more expectation that you have for, and that's not just expecting a higher grade, or better work but expecting the other party or whoever grading it to take it seriously as well. I think you give something higher value when you spend more time.

Another student, Alexa, referenced the monetary value of time as a student on placement versus an employed pharmacist, “So, you know, and as a student, like you always feel bad asking for any time or saying you have an appointment, but like the reality of it is I'm there, you know, I'm not getting paid.” He added “I mean, we're there to learn. I don't expect them to pay me. But I think if I was being paid, I would definitely feel obligated to even stay late all the time.” Similar messaging was given to students through reminders in several courses to be respectful to guest speakers or lecturers because of the time they took to teach. And students were explicitly informed in experiential education manuals that “preceptors volunteer their time to teach students” (PPE Manual, 2020, Appendix C). Therefore, being a professional was tied to managing, spending, and being paid for valuable time, but as students, they were not at that stage yet.

This was closely related to messages students received about faculty time, who as professionals, modelled the importance of dedication and spending time wisely. For example, students were told in one course that although feedback should be timely, providing feedback can be time consuming. Students were also told that evaluating student case-based work was time consuming. It was mentioned in several courses that faculty work into evenings and weekends and that faculty do not have enough time to develop materials for students. Expectations of faculty written into some course outlines included responding to student emails and questions within 24 to 48 hours, or to have materials posted for students at least 12 hours before class and longer before practical labs.

Section two: Managing time: Evaluation

In evaluation, the researcher assesses the significance of the description and interpretation while simultaneously exploring the complexity and making value judgments on the events. In the section on "alleviating busyness through managing time", I observed students regularly exposed to expectations of managing time, which was reflected in comments by students as John described "having to prioritize", Oreos cutting "certain aspects of my personal life out", and Jim said "you put your head down" to get the schoolwork done. In addition, the idea of multi-tasking and attending to competing demands was encouraged and modelled by some faculty. This was converted into expectations as Rose described giving students "multiple activities" and Wynter similarly assigning "multiple tasks" in set amounts of time. Yet, cognitive multi-tasking is flawed because we have limited working memory for divided attention (Leppink & van den Heuvel, 2015) and attempting to perform simultaneous tasks increases mistakes (Sherbino & Norman, 2021). Despite this problem, students internalized multi-tasking requirements as faculty member Sun said, "they're learning it without even really overthinking it" and it was exemplified by a student, Captain America explaining "you can't spend all day working away on one task". In addition, faculty implied the value of certain knowledge and learning through dedicating time to certain topics. For example, Sun discussed perceptions of "what's evaluated", Pharm One conveyed "more time spent on a topic", and Caffeine said "they know that they're being marked".

In the section on professionalism and time, students received messages that managing time was part of the qualities of being a professional. Importantly,

professionalism was regularly assessed by faculty, which means that managing and spending time was also assessed. I observed this in evaluations of punctuality and completing lab work on time. Despite time being portrayed as an individual responsibility, appropriate time use was dictated by these assessments, leaving students with minimal choice on where to spend their time. In addition, learning was framed as goal setting and achievement based on time as students learned to "set a realistic time…to ensure you don't get discouraged." Thus, there was an obligation felt by students to manage and spend time as Alexa explained feeling "bad asking for any time" or AMC attributing more time to "higher value". This value placed on student, faculty, and pharmacist time led to the need to control the busyness of life and practice. How this was taught and represented explicitly and implicitly to pharmacy students is described in the next section on controlling time.

Section three: Controlling time: Description and interpretation

Timed activities and their accepted purposes

Perhaps the most telling example of the pharmacist's time is through the use of practice activities in school. These include mock pharmacy practice scenarios in the form of objective structured clinical examinations (OSCEs) and other forms of case-based learning, whether written or interactive. Such activities were given to students almost every week and were a significant portion of final student grades. Pharmacist tasks are also defined by time, such as screening prescriptions and checking dispensed prescriptions in pharmacy practice courses. Screening prescriptions is an activity where students are asked to identify if there are any problems associated with prescriptions prior

to them being dispensed. The problems could be legal or technical issues, such as missing patient information, that prohibit a prescription from being accepted and processed. They could also be therapeutic problems such as inappropriate dosing that requires a pharmacist's attention and intervention. Checking dispensed prescriptions is an activity where students are asked to identify if there are any problems associated with releasing a medication to a patient. The premise is to ensure the accuracy of a labelled and dispensed product in reference to a prescription. Time is assigned to these activities and related to the number of prescriptions students are expected to screen or check. Often, five prescriptions are to be screened compared to four prescriptions to be checked in seven minutes allotted time. Students are expected to stop when the timer is up and check their answers if it is a practice activity or move on to the next activity if it is a summative assessment. Students are told that these activities are representative of what the licensing examination requires them to perform and are timed similarly. The Pharmacy Examining Board of Canada exam stations have both prescription screening and interactions timed to seven minutes (PEBC, 2021, online).

Although most students gravitated towards speaking about the timed OSCEs, they were not the only timed activities in lab as Cards explained,

> all these things that we did, like the PMP [Patient Medication Profile review] stuff, the DAR notes, the SOAP notes, they were always typically timed. Just so you get a submission to help prep us for the exam, which was of course was timed. And I guess just to get us better at you know, condensing everything and getting our thoughts out and you know, not taking all day to write a simple DAR note.

Students and faculty broadly mentioned timed midterm and final exams as part of standard university policy. But within the school, pharmacy practice activities were often

given as estimated completion time even if there was no assessment-based restriction of time. In addition, all pharmacy practice courses often had defined time for instructors to provide feedback and case-scenarios assigned ranges and maximum times to be spent within each part of a lengthier activity. For example, in one course, students were given seven minutes for an interactive scenario, followed by ten minutes for discussion and planning, and five minutes for providing a response. This kind of delineated and defined time was common throughout courses. Instructors guided students on how to approach these activities and often informed them that time will be limited if they spend too much time on one aspect. Prioritizing time and managing time were regular messages to students, whether it be depending on the severity of the problem or where to spend time during an interaction with a patient, for example taking a certain number of minutes to gather information. Instructors also told students what to do if they do not have enough time, such as focusing on the main points and only brushing over small details, even if the details were part of the assessment.

Many faculty commented that the time allotted for activities in class or lab were more than what students would have in practice, which would lead to misalignment between education and practice. Rose explained,

> I think when they get into practice, it will be a little bit of a rude awakening because they have a lot more time in lab to complete things and to do things. So it's hard, it's a balance, to give them enough time so that they can do a good job with the activity.

DW Read reiterated this disconnection with the broad roles, “And in practice, they don't get all that time to do that. They don't have time to sit down and go thoroughly through a patient.” Wynter connected this to patient expectations, specifically patient counselling,

which leads to “a little bit of a disconnect or friction between what are [faculty] really teaching me to do versus what they're actually going to be doing or patients want them to do or expect them to do.” Despite this disconnection, Trooper explained how she taught students how pharmacists could make use of available time and create time. She said,

> Students would say that they don't have time to do what they want to do, which is clinical services. They spend too much of their time in the hospital on core dispensing, or in the community practice on core dispensing. And as a result, they didn't have time. So we spent a lot of time strategizing how to plan out your time so that you create those windows of time and those buckets of time to make things work.

While the importance and scarcity of time was relayed to students, it was also noted that a consequence of time limits is safety and accuracy of patient care work. Instructors explained that rushing or completing tasks hastily is problematic; however, there was only one instance observed of an instructor explicitly telling students the need to slow down even if there was insufficient time.

Students also had specific deadlines to the minute for many assignments. In several experiential education student guides, statements like “Required assignments for each course are required to be submitted no later than 5:00 pm on the last day of the rotation for that course” (APPE Manual, 2021, p. 5) were frequently observed. In other courses, these deadlines were often placed at 11:59 pm on the date they were due. Sam mentioned how this was defaulted by the electronic learning management system the school used and a 11:59 pm deadline meant that students submitting assignments that day would not be marked late by the system. However, she added, “I think 5pm would stress them out more. I think they like having the time in the evening to work on it” but Sam did not give a penalty to late submissions, admitting,

> this has evolved over time. So originally, when I first started, I used to be documenting this on their professionalism record. And now, it's there when I start marking, I'm not going to even care about that, the fact that it was submitted late.

While most faculty members did not put much thought into the due times, when asked, Rose and DW Read thought about potential consequences on student learning with this due time. Rose thought,

> So I do see some students would do it at the last minute, and maybe they don't do as good of a job because they know they have that extra time… So I think it sometimes it could have more of a negative impact actually.

While DW Read contemplated, "Another way to think about it is we're expecting them to work up until 11:59 at night. So kind of, that we're expecting them to be continuously working, that they don't always get a break." Students interviewed did not feel that the 11:59 pm was restrictive and some thought it as a bit of leniency given to them by faculty with the understanding that student were in class during the day. Others thought it was good to have the clarity because there was inconsistency between professors about the due time. However, many commented that they did not like to wait until the last minute to submit an assignment anyways.

The many purposes of OSCEs

There was extensive commentary from participants about OSCEs and their relationship to pharmacy practice and education. This warranted a detailed subsection within the description and interpretation of timed activities. Many faculty members discussed the role of timed OSCEs within practice labs regardless of whether they taught in those courses or not, displaying their familiarity with these types of activities and assessments. Often these were designed with the intention of being close simulations of

real practice settings and scenarios, although faculty members also acknowledged that sometimes they did not. DW Read described,

> we always have our simulated, or our OSCEs that are seven minutes. So they have seven minutes to be able to answer this question. And that's also preparing them for, the standardized national tests as that's what they have…But I think that's also important in practice too for students, as it does help them to be able to look up information and get that information in a timely manner, and be able to respond and in practice, you want to be able to do that.

Similarly, Samantha explained,

> A seven-minute timeframe is what you have to solve this problem and figure out what to do for the patient within that timeframe because this mimics practice. You don't have an hour with every patient that comes up to your counter in a pharmacy or when you're beside the bedside in the hospital.

Caffeine mentioned how the OSCE time resembled the pharmacist's time with patients,

> when we do OSCEs we keep them to a short amount of time, which again, is probably more reflective of how things work in actual practice, I mean, you do have limited time to spend with patients so that you can see other patients.

Wynter also spoke about the connection between simulation and practice, with reservations. She mentioned,

> I do think that it's difficult for us to prepare them for sometimes the pace of how they will be working as pharmacists in our simulated environment. So they really don't get a sense of that until they're out in some sort of experiential learning environment. And I don't think that's our job to necessarily, completely replicate that or simulate that, but there is an element of that. And time is part of it.

Sun and others suggested caution,

> I think it depends and that's why we have to be really careful. I also know part of it is PEBC preparation. But in terms of practicality, we sometimes need to think about what the intent of the OSCE is.

Students spoke about OSCEs in a positive and negative light. Several did not know why they were timed, but they ascribed the purpose of these activities to preparation for licensing exams. Some began to connect them to their thoughts,

experiences, and observations of the reality of pharmacy practice. Oreos for example, did not know why time was constrained with OSCEs, but recognized that the licensing exam had them. That influenced her preference on continuing to have timed OSCEs,

> I would rather do it in the seven minutes and get used to doing it during those seven minutes rather than having extra time and then during PEBCs, not be able to do it in the required amount of time.

Cards also accepted the need and presence of time constrained OSCEs but expressed dislike of them because they were not realistic, “I understand that PEBCs have a time constraint. So like that's why the school does it and I totally agree with that. But I personally, I don't like the time constrained OSCEs at all.” For Cassidy, a fourth-year student, the licensing exams represented a hurdle to practising as a pharmacist,

> The seven minutes makes sense because that's PEBCs. And a lot of labs I guess are time based, which makes sense to me, like in the context of preparing you to get information fast for PEBCs. Because obviously, that's the end goal and that's what's on my mind now.

Derek similarly thought that their purpose was for the PEBC exam, “So they're very important for pharmacy school for the sole reason of getting licensed on PEBCs. Right, that's the whole purpose you do OSCEs. You don't do OSCEs to make it realistic.” Aside from the PEBC exam, Cassidy also noted the difference between timed OSCEs and reality, “It's kind of funny because when I'm counselling someone, I never look at the time. Sometimes I'm there two minutes, sometimes, like the other day, I was 40 minutes with someone just because they had so many questions.” Similarly, while A. Turing also recognized the constraints of an OSCE activity and perhaps a slight connection to pharmacy practice, she added, “there's nothing to dictate really that says, it has to be a

seven-minute block for each single patient. You may do a five-minute block for a certain patient, and then a nine-minute block for another patient, right?"

From observations, timed OSCEs were already introduced in first year, but third year student, Peanut Butter, explained how an experiential rotation helped her understand the purpose, relating it to time, "Because in practice, you're not really going to have that time to waste…going to have other roles that you're going to have to perform. So after this placement, I definitely understand more now, why there is a time limit." This differed from first year students Sarah and Kelly who were unsure of the reason for timed OSCEs. But Kelly felt that it was helpful to gauge her performance in an activity, thus linking less time with better performance. She said,

> It was nice to kind of see where you were and how you were improving. Because the first time you would probably take like the full seven minutes or whatever. But by the end, you were like done in a couple minutes, or like half the time that you were before. So it was actually nice to see like an improvement by having the time there.

Cassidy also mentioned how responding to a question in a shorter amount of time showed confidence and knowledge,

> I feel like, if I know the answer right away, and I can say it right away, I feel like I know my stuff. And the person I'm talking to is like, okay, wow, she knows that…They're probably not actually thinking that, but that's just my own mental thing. They might not trust my answer as much if I get back to them a few hours later, versus if I know it within a few minutes.

But these kinds of activities were stressful to some students as Captain America explained, "those can be pretty stressful because you don't necessarily feel like you have time to think sometimes, and then the stress of knowing that you're on a time limit, it causes you to not necessarily think straight and efficiently." Capsule also felt stress

sometimes and said, “you only have seven minutes, and they feel like the shortest and the longest seven minutes ever, sometimes could go either way.” However, without reference to the timed nature of OSCEs, AMC thought that their use as simulations of practice was beneficial,

> I actually find the OSCEs very helpful. So like most during placement, there are real situations that would reflect what we did in OSCEs. And I would compare what we did in OSCEs to what the pharmacists do. And in that sense, OSCEs actually prepare me for some of the real situations that I would see in hospitals or in community.

For others, time was representative and important for practice. Peach described in depth,

> Usually we would have something like a written OSCE, you've got 30 minutes to hand this in. Or the OSCE, you have seven minutes to do this…because if you're in community you can't really dedicate the whole day for one question. Like I remember one time and it reminded me of lab because I was a bit stressed. One time a person came in with a penicillin allergy. And they were getting like, a cephalosporin. And like the pharmacists asked me, for practice, figure out if there was cross-reactivity between this one and that one. And so I had to go online, like I had other stuff to do, I had to still package and data entry, but in my mind, I couldn't spend that much time focusing on this because I had to do other things. So I feel like that's why lab work is timed because in community, you have to be a bit quick to get information out and send it to the doctor or relay it back to the patient.

Many students described the timed interactive OSCEs as based on completing tasks or more specifically, ticking boxes on a checklist. This setup was apparent in assessment of these OSCEs, on observation that the assessment form is called an “analytical checklist.” For Tomato, it meant “it kind of forces you to basically give the most information you can in a reasonable amount of time.” She added how not doing so would impact her grade,

> sometimes when you're doing an OSCE there are so many boxes that you're expected to tick. And basically, if you don't hit them all, then obviously you're not going to necessarily get the grade that you want. And sometimes like seven

> minutes is a little bit short, like just to gather all the information you need, and then tick all the boxes that you're expected to tick, whether it be like with the scholar-macs acronym, or all the things you have to tick off when you're counseling a patient on a medication.

Rather than being complete, Jim described her approach to the checklist as,

> For the most part, seven minutes is enough, especially when it comes down to the major boxes there are important to hit during those interactions. There will always be little things that get left out. But especially when you get that two-minute warning, that's your reminder that okay, now's the time to put that stuff aside and make sure you've checked all the big ones.

However, several faculty members explained that they wanted to relay a different message, despite the continued use of the checklist terminology students could see in their practice activities. Sun explained,

> I always tell students my examples of counselling may be a bit longer as I want them you to see how a complete counsel would be done. If I covered every and with me also being a little bit, I won't say chatty, but just being myself. I would comment on that because I'm not just hitting the points on the checklist I'm just having a conversation.

When speaking about the OSCEs, all faculty members mentioned the connection to licensing exams and expressed clearly that the time limit was mainly to resemble what the students would be required to do. Rose succinctly said, “The only reason its set at seven minutes is because their national exam is seven minutes for the OSCE component. And we've kind of tried to, you know, prepare them for that.” However, she added that there was variability in OSCE times in her teaching because, “I struggle with that as a teacher, because I know in real life, they're not going to necessarily have a buzzer. So I think there has to be a mix.” When asked, none of the faculty members knew why the licensing exam had seven-minute OSCEs, though they suggested possible reasons. Samantha speculated, “my understanding is that's more realistic for most pharmacists, in

terms of solving most encounters…I've heard that is the rationale, I don't know if there's any hard-fast research done" and added "it's always been seven minutes" since the inception of OSCEs. And Sam similarly commented, "I don't know why they've chosen that particular time. I mean, they might have done some research to see what the average time of an interaction between a pharmacist and a patient is." This enforced time limit seemed like an accepted reality in pharmacy schools as DW Read stated, "I've never actually thought about why." PEBC documents also did not provide any explanation as to why they had a seven-minute constraint on the OSCEs or why the number of prescriptions to be checked or screened was made. Sun echoed some of the students' perspectives on the PEBC exam, in particular when discussing patient counselling,

> I guess, what would be an average time for an average situation? What would be a reasonable amount of time? But I don't know, sometimes it's a bit of a stretch. And then when I think about if they're assessing them, they're not expecting to cover every single detail that you would in practice. Did you cover the most important information that a patient could walk away safely knowing how they use their medication, which is not necessarily every single detail for every single drug? Time spent on counselling will vary greatly based on the patient and the medication.

But students wanted the seven-minute OSCEs as faculty member Sam explained,

> They were saying, we don't want it inflated because we want to be used to having to do it in seven minutes for when we actually have to do it in seven minutes. So I was kind of influenced a bit by them. There were some very strong opinions voiced on that, you know, they didn't want the extra time.

In interviews, faculty raising the issue of OSCEs and practice were asked how such activities could affect students' future practice. Wynter contemplated,

> It's possible that they, I guess, it could go both ways. I mean, there could be something that requires more than seven minutes. And they're used to wrapping things up quickly. So if they have that as, that's the way things work, and you get

> a question and you wrap it, like, you've got to look at one reference and address it quickly. And maybe not giving it the time that it needs.

However, faculty claimed that experiential learning and workplace experience probably affect students' perspectives and practice more. For example, in discussion about the limits of the PEBC exams and OSCEs, Farmer remarked,

> it's really hard for any program to be able to produce an individual or a professional that is ready to practise. And I think that part of that efficiency and effectiveness will come in from exposure to the so-called real world or the professional practice world, I guess, where they have these practical experiences and then they are actually in a setting where they're going to be having to confront situations that they never were exposed to before.

Jess concurred,

> I see students throughout my experience as a community pharmacist, they're learning all of the things they need to learn to become a pharmacist, but not necessarily how to practise…They need to get out there and be able to apply what they're learning, not only from a clinical perspective, but to be able to understand the demands on their time, what needs to be done in the run of the day and understand that they really do have to plan their workflow to be as efficient as they can.

Caffeine similarly said with respect to OSCEs,

> it's not the only sort of means by which they have these patient interactions to learn how to interact with patients, because they have this great experiential component that they complete throughout school. So you know, even though it might influence it to an extent I think the greater influence comes from that.

Thus, the accepted presence of specific and detailed timed activities was valued by students and faculty. And their unquestioned purposes were three-fold: One to teach time management, two to mimic actual pharmacy practice, and three to prepare students for the PEBC licensing exam.

Student time is highly structured

Part of controlling time is how student time is organized and enforced. At a high-level, student time is structured by the school in terms of class timetables which are shared by all students within a cohort. These are posted online on the school's website and given to students in advance of the term. Students are required to take all the courses in the timetable, unless they have exemptions due to having previously taken a required course that is offered outside of the pharmacy school. However, all pharmacy courses are required, and students do not have a choice to deviate from this timetable or choose when they would prefer to take them. Course outlines in all observed courses specifically scheduled topics and defined how each class or lab would be spent. In particular, pharmacotherapy courses were arranged by dedicating specific numbers of hours to topics, reflective of instructors invited in to teach those topics. Class time was further divided to minutes or hours, especially if multiple instructors were to be in the same scheduled slot. While these were changed occasionally for reasons like availability of instructors or illness, they were published at the beginning of the semester and expected to be followed by both students and faculty.

Jim remarked that her time was structured by the school in terms of classes and labs, with little ability for personal scheduling, similar to working a job.

> Your day's broken up for you initially because you have classes, right? They start at this time; they end at this time. With respect to activities, you have things like exams, the practice experience labs, which are often divided up into so many activities that you have to do within three hours… But work is like school in a way where there's just that time taken away from your day that you have no control over.

Jane however, expressed difficulty deciding how to use her time and having to make unwanted choices for skipping class,

> Oftentimes, I found myself anyway being like, am I going to go to this class? Or is my time better spent doing something, or I would find myself doing things in class so that when I got home, I'm like, okay, I got to cook supper and then I got to study. So in order to make time for those things, I would do other things during class or maybe not even go to a class to make sure I had enough time to do other things I needed to do. So that definitely happened to me, because I know, I definitely missed some classes because I thought my time was better off used to complete something.

The idea that certain courses or even certain topics within them were more valued than others was common among students seeking to prioritize their time. Oreos suggested that in medicinal chemistry "looking at the material and seeing how it's actually applicable to real life working as a pharmacist is a much more efficient way to use our time studying than memorizing different reactions or definitions or structures." Alexa explained how later courses were more valued because "in first and second year, you're doing the organic chemistry, and the biochem and stuff, which is all, you're not really going to use that in practice." Peach echoed this sentiment, comparing pharmacotherapy to pathophysiology courses,

> if I got a low mark in patho, I wouldn't be as worried maybe as [pharmaco]therapy because maybe I gave the same amount of effort in both courses, but I'd be happier getting a better mark in [pharmaco]therapy, because that's a bit more applicable to the pharmacy profession.

John also emphasized, "there are some things that you need to focus on more than others. Because you often don't have time to learn every single detail about a condition, you need to kind of focus maybe more on the pharmacotherapy." She added that instructors provide "a lot of hints about what's most appropriate, or what's most important." Tomato

similarly spoke about the constraints of time and despite understanding that there was “no limit to the quantity of things that you can know as a pharmacist”, she felt that the school needed to give students knowledge within constrained time, “it's probably a time crunch because they're trying to give you as much information as they can within those four years.” This also led to thoughts about the importance of what the school was teaching,

> sometimes, you have to kind of buckle down and accept that, okay, maybe you're going to be learning a lot in one semester. But all of that stuff is going to be important in order to move on and get through all the things that we're going to need to get through in the five years.

Faculty were asked about course content as well and their decision-making around the amount of time allotted to topics. Several faculty members mentioned they considered the complexity of disease, prevalence of disease, and the role of the pharmacist in managing the disease to determine the time allotted. Pharm One explained,

> so it's a balance of those things, complexity of disease, how common the disease is in terms of prevalence in the population, and whether or not I think, like topics that a pharmacist can treat like minor ailment topics, they also require larger amounts of time just because like I said, the pharmacists can be the be all end all for that topic.

While Diane concurred, she also recognized that the arbitrary nature of allotted time,

> “so it's a bit haphazard right now to be honest. Some is because we've always done it that way. And that's how many hours a certain area has had in the past, which may be an appropriate amount of time and may not be.”

She added that the school does put effort into addressing this and faculty members re-evaluate time allotment annually. But these decisions gave some faculty members pause, as Watercolour reflected,

> I think when I started teaching, I taught almost exclusively didactic, so I just shoved this huge volume of knowledge on them. And I struggled with trying to figure out what to include and what not to include. I'd come out of a PharmD

> program, and I think I taught them as though they were PharmDs versus entry to practice. And still, I think I'm still trying to figure it out. What do they need to know for entry to practice, and what is probably specialty, that perhaps they wouldn't need unless, say they were a [specialized] pharmacist? So I definitely shoved way too much information down their throats, and I never thought I had enough time to teach.

Yet there was also a sense that exposure to as many topics as possible was beneficial for students. For example, Caffeine said,

> And even in things that we don't necessarily include in, for example, a lecture in a pharmacotherapy course like we might incorporate a particular disease state into a case assignment in another course, so that students are still exposed to that information and get an opportunity to perform some drug information, research about it or come up with a plan, looking into all their drug information resources about that particular disease state. So there are many ways in which, even if we don't cover a topic in length or in great detail, we incorporate them in other activities such that students are still familiar with them afterwards.

While Jess added,

> I think there are so many topics because we might feel that we need to teach them everything before they leave school. And we're trying to give them exposure to as much as we possibly can before they actually go into out into practice. To me, it's kind of a catch-22. It's a give and take as to how much you try to teach them while they're here, as opposed to how much they can absorb on their own when they're out in practice.

This was problematic for Bill who thought about the effect on students and said,

> The learning environment, to me, is not that great, because I think there's too much material personally. So it's about getting all that material in and not learning it properly, or not learning how to even to learn. They're just learning how to memorize.

Time allotted to content was also dependent on the PEBC exam topics but Diane expressed conflicted thoughts on whether that was good for the profession. She explained how the school also tries to,

> make sure that we cover in the curriculum any or all topics that are likely to be on the licensing exam. And then anything that has a larger portion of the licensing

> exam, ideally, we should be, for our students' sake, not necessarily for the profession's sake, for our students' sake, we should be focusing more on those areas so that they're comfortable with them and have a good chance of success in their licensing exam so that they can go on in the profession.

In pharmacy practice labs, time was filled up and defined to minutes per activity or feedback. A. Turing, a third-year student noticed that while attending class, they were "making sure you're able to absorb all the material within that set period of time that's allotted for that class." Interestingly for A. Turing, there was an expectation that learning happened and was completed in the class time, or in the moment. This is similar to how instructors used learning objectives at the beginning of their classes with the common phrase "at the end of this session, you will…" indicating an understanding that listening or participating in that class or activity results in learning of the content. Occasionally, students were told that time was insufficient in class or lab so discussion or feedback would be pushed to alternate class or lab time. Class and lab time was also given back to students in lieu of activities they were expected to complete outside of their timetable, for example, interprofessional learning events and experiential days. And while students are given time back, accreditation standards require "dedicated time, space and funding" (CCAPP, 2020, p. 17), for interprofessional learning. Changes to time were also commonplace in pharmacy practice courses, from changing and extending how long students have to complete lab activities, to rescheduling of assignment due dates.

Although students spoke of the structured classes and labs, the constraints of time, and the pharmacy-related commitments, most suggested that the school and faculty were conscious and flexible on time. Flexibility was important to students, and they

appreciated when faculty provided time when asked. Oreos speaking about the labs explained,

> in my experience, if you ever don't get anything done, or if something goes wrong, you have start over, the lab instructors are usually pretty understanding and they'll either give you extra time, they'll say you can come in during another time to complete it.

John similarly commented,

> Sometimes, if it turns out that we don't have enough time to finish it, usually the instructor is pretty good about telling us that we can finish a certain part later on, kind of adjusting it so that the time is appropriate for the amount of work we need to do. But yeah, in general, I would say it's very appropriate. Usually, it's structured so well that we can get everything done on time.

Cards considered that she was part of the first class in the new PharmD program,

> Sometimes, the flexibility was, I think was forced upon the school because our program was so new. And like the instructors might not realize, you know, this DAR note, it's actually a little bit more complicated and one hour is actually not that much time. So they'll give us a little bit extra.

But importantly for these situations, activities needed to be completed and time had to be requested and granted by the instructors. This was reflected by Alexa's worry of the potential inflexibility of experiential learning time during her rotations. She said, "it's very scheduled and if we miss any time in one, eight-week rotation, we don't have any time to make up that missed time. So that's kind of unfortunate. And hopefully the school does give us some leeway."

Experiential education components of the program were prime examples of structured student time. Pharmacy programs in Canada are subject to CCAPP (2020) accreditation standards and guided by national educational outcomes by AFPC (2017) and national professional competencies by NAPRA (2014). CCAPP (2020) standards

stipulated programs must have at a minimum, "a total of forty weeks (minimum) (1600 hours) of practice experiences. The total hours of practice experiences provides the opportunity to develop proficiency in all competencies required for entry to pharmacy practice" (p. 10). Time was used as a measure of ensuring proficiency and competency, but time is also subdivided from weeks into hours, assuming a 40-hour week. These were further partitioned into early and mid-program practice experiences and concluding practice experiences, with a minimum time in direct patient care of 320 hours (eight weeks) in the early and mid-program experiences, and 960 hours (24 weeks) near the end of the program. Programs were also required to show proof that time spent in the experiential components met these minimums, for example, providing "analysis of hours relative to requirements" or "documentation of direct patient care service hours" (p. 10). AMC, a third-year student mentioned the experiential components of pharmacy school as time-based and related it to being gauged as effort, "you have to do certain hours of it…that's like a measure, a standard measure of effort."

The school had more time dedicated to practice experience than accreditation standards, at 44 weeks total. But it similarly placed subdivisions on time, specifying, "a week is a period of seven consecutive days" and "a minimum of 40 hours is required to be served each week" (PPE Handbook, 2020, p. 1). Particular examples were provided, such as in a first-year course, "students will shadow a community pharmacist (12 hours)" (p.1). Faculty members attributed the experiential time requirements to accreditation standards as Jess explained,

> what I gather they, they would go by accreditation standards as to how much early practice experience they have to do, and later practice experience, and try to

> divide it up. And I really think that they've looked at the time. They try not to take too much of the summer away from the students too, and not have them do like 12 weeks [in the summer].

These time requirements were reiterated several times in each PPE course outline and detailed guidance for deviations of time including how to count statutory holidays. Importantly, students were expected to make up missed time in a rotation, with examples of potentially harsh penalties if they did not, including eligibility for scholarships and awards (PPE Handbook, 2020, p. 11). In further restrictive fashion, students were informed that "it is not possible to put in 'extra' hours each day in order to finish the rotation early" (APPE Manual, 2021, p. 19) and that changes to rotation time or requests for absences must be approved by the school. More specificity was written to explain, "schedule changes of a minor nature (e.g., less than half a day) may be approved by the preceptor" (PPE Handbook, 2020, p. 9), cementing the importance of time and placing a value on quantity of time for making decisions, that is, half a day is a decision for preceptors, but anything more must go through the school. Students were bound by these schedules as Alexa described the requirement of reason and proof for missing days "if you're going to be absent for any reason, you know, we have to be notified, like [program] wants to know, we should have a good reason, documented type thing." Students were reminded that part-time work was not a legitimate reason and manuals specified, "Employment conflicts are not considered legitimate reasons for excusing a student from the PPE. Where applicable, work schedules must be adjusted to accommodate rotation requirements" (APPE Manual, 2021, p. 20). The necessity of this

statement reflects the understanding by faculty that almost all students have part-time pharmacy work.

However, student time outside of experiential rotations could also be directed by the school, with expectations of work being done beyond the stipulated 40 hours at the site. The Handbook stipulated, "While some of the work presented in the rotation manual is best completed at the PPE site, other work may, and should, be done on the student's own time" (PPE Handbook, 2020, p. 6). Similarly, students were informed that,

> Preceptors may occasionally request students to attend more than the minimum number of hours designated for the rotation (e.g., be present at a continuing education session or another event). Students should also expect that additional time may be required outside of their regular practice experience hours (evenings and weekends) for completion of practice experience activities (e.g., research, patient care work-ups, presentations, etc.). Students should not expect that the preceptor will grant time away from the practice site for library research. (PPE Handbook, 2020, p. 10)

Though the focus is on structured student time, it is important to briefly note that preceptors were also bound to this defined time, highlighting how controlling time extended beyond the school. Student evaluation documents told preceptors that "it is critical that performance issues are identified and acknowledged in a timely manner so appropriate measures can be taken to help the student succeed" (PPE1 Evaluation Form, 2021, p. 1). They were given specific direction for providing feedback, as described in one manual, "Preceptors are encouraged to provide feedback to students on their performance daily or every few days" (PPE4 Evaluation Form, 2021, p. 9). They were also required to evaluate the student's ability to fulfill "tasks and commitments in a diligent, timely, reliable manner." And in all courses, they must keep track of and assess attendance through informing the school whether the student "is consistently punctual"

and by completing an attendance certification outlining any absences or make ups (e.g., PPE2 Evaluation Form, 2021, p. 1). In APPE rotations, preceptors are also expected to discuss with the student the "daily schedule, including timing of rounds/group sessions, breaks, lunch, etc." (APPE Manual, 2021, p. Checklist).

To summarize the highly structured student time, it is helpful to return to the broader organization of pharmacy programs. AFPC (2017) stated,

> The intent of competency-based education is to allow students to progress based on their ability to demonstrate a competency at their own pace. However, for practical reasons, the pharmacy curriculum needs to have intelligent and deliberate design that paces skill acquisition for a group of students while still respecting the individualistic principles of competency-based education. (p. 7)

While it was suggested that students can progress through the curriculum at their own pace, this was not considered a practical way forward, so planning or organization was necessary. At the school, this was reflected in timetables, course requirements, the selection of course content, and the requirements for experiential learning.

Section three: Controlling time: Evaluation

In the last section of this chapter, I evaluate the concept of controlling time in pharmacy education. Evaluation in Eisner's connoisseurship and criticism method serves to appraise the complexity of educational practices. The section on timed activities described how students expected faculty to give defined durations and specific deadlines to complete their class and lab work. Students adhered to digital timers through tasks like screening and checking prescriptions and I observed instructors giving estimated completion time for activities even if there was no clear reason for constraining time. Faculty explained that controlling time was necessary preparation for future practice

otherwise, as Rose said, entering practice would be “a rude awakening”, DW Read mentioned “they don’t have time to sit down”, and Wynter described “disconnect or friction” in future practice. Students and faculty did not challenge the notion that education needed to align with practice and this demand for timed activities indicates how time is central to pharmacy education and dictates teaching and learning. Such practices easily lead to a focus on the time for learning rather than the learning itself.

The most visible examples of timed activities were the timed OSCEs. Several faculty members likened the time limit to the realities of practice and the lack of time to complete tasks or to spend with patients. For example, Samantha said the OSCE “mimics practice”, DW Read said it is “important in practice”, and Caffeine explained it is “reflective of how things work in actual practice”. These thoughts set up the potential conflict in practice between providing quality patient care that may require more pharmacist time and the mentality of providing some care in a set time. Some students also subscribed to this necessity and rationale, such as Peanut Butter’s thought that “you’re not really going to have that time to waste” or Peach’s explanation that “I couldn’t spend that much time” on a specific patient question.

Another concern of the OSCEs in pharmacy education is that students gravitated towards OSCEs as replication of the PEBC exams such as Derek’s claimed that OSCEs are used for the “sole reason of getting licensed”. Consequently, students thought that OSCEs were appropriate teaching tools and they wanted OSCEs. Oreos wanted to “get used to doing it”, Kelly felt that performing OSCEs in shorter time meant “you were improving”, and Cassidy described feeling “like I know my stuff”. The use of OSCEs in

pharmacy education showed how time could be used to measure the acquisition of knowledge. It was further exemplified in observations and comments that OSCE assessments are checklists, such as when students like Tomato discussed the "many boxes that you're expected to tick" and Jim thought about getting "the major boxes". However, faculty member Watercolour was more direct in criticism of the timed OSCEs. She elaborated, students

> have certain tasks that they have to complete. And they have a certain amount of time, right? The bell, ding, ding, ding. And here we are teaching them, you've got to be efficient, you've got to get as many things, you've got to look over and see that evaluator tick, tick. I can see them watch me out of the corner of their eye. I've got to get as many ticks on that checklist as possible before my time runs out and the bell dings. That is the opposite of caring. That is the opposite of humanity. I understand why we do it, because that's what they have to do to pass their PEBCs. But there's a classy example of time and efficiency equals robotic, uncaring, no empathy.

Her perspective parallels my evaluation of timed OSCEs. Too, the acceptance of such activities with few students or faculty questioning their existence or rationale explains the perpetuation of these educational practices.

In the section on highly structured student time, I explored additional ways that time is controlled. My course observations identified the methodical division of class and lab time into minutes or hours for specific topics, thereby creating an environment where once again, knowledge acquisition is mapped onto time. Similarly, experiential learning was highly structured based on time spent at various practice sites and directed by accreditation and educational standards. Although some faculty commented on the arbitrary nature of allotted time, they insisted on teaching students as much as possible. For example, Caffeine suggested ensuring "students are still familiar" with topics not

formally scheduled and Jess commented on the practice of "trying to give them exposure to as much as we possibly can". This notion was further reflected in student thoughts about flexibility because they continued to accept that the work still needed to be completed despite the constraints of time. For example, John commented finishing, "a certain part later on", Oreos discussed coming "in during another time", and Alexa was concerned about "time to make up that missed time". Thus, in many facets of pharmacy education, students and faculty endorsed teaching and learning as dependent on time as AMC aptly said, "that's like a measure, a standard measure of effort."

These discursive practices of controlling time led to students approaching timed activities for the time component rather than the goal of providing good patient care. It led to faculty and the curriculum valuing time spent as a measure of achieving proficiency and competency, and was subsequently reflected in students considering time as the defining factor for decisions on what was legitimate knowledge to learn.

In this chapter, my description, interpretation, and evaluation on the concept of time in pharmacy education highlighted that busyness was an expectation and reality for students and pharmacists. Busyness was due to the amount of schoolwork, extracurriculars, and part-time work for students, which paralleled complaints about the workload of pharmacists. Importantly, participants thought that pharmacists had to contend to demands of patients and other healthcare professionals, which led to a lack of control of one's own time. This was further taught and reinforced to students through timed activities and a highly structured and delineated time for class content and

activities. Ultimately, managing and controlling time were portrayed as elements of professionalism and explicitly taught and assessed.

Chapter five: Findings on efficiency

This chapter presents my findings on efficiency and follows the previous chapter on the findings on time. To reiterate, the chapters address my research questions:

How are time and efficiency collectively perceived and enacted in pharmacy education?

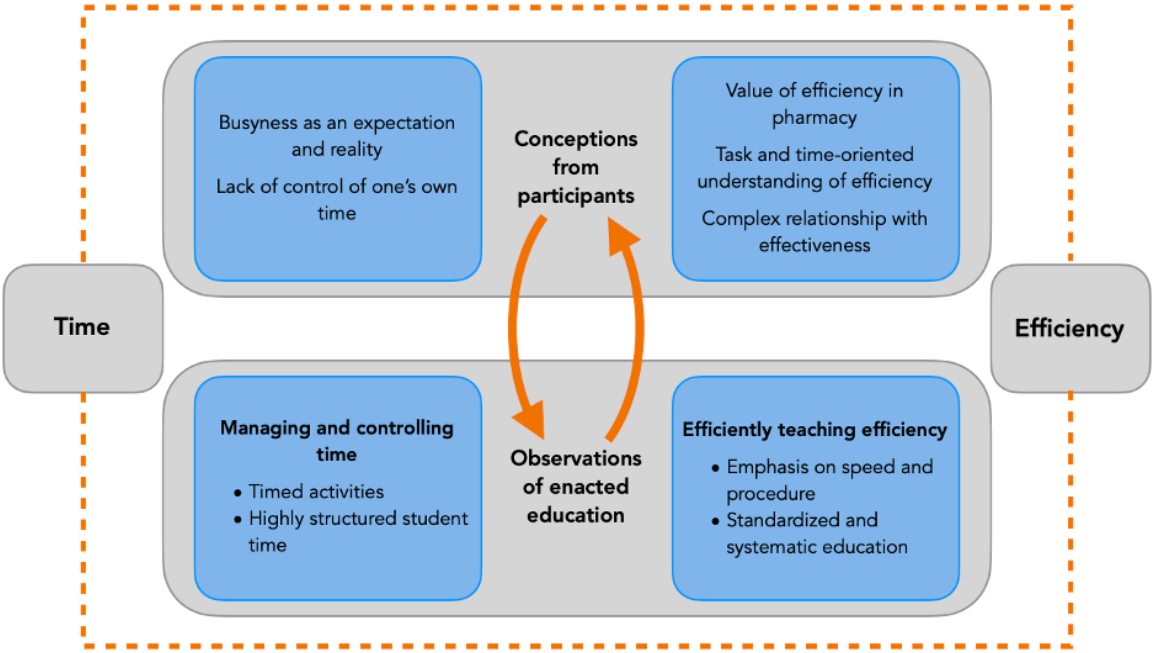
How are these concepts rationalized in formal curriculum?

What informal messages or assumptions are being given to students?

How do these concepts relate to the pharmacy profession?

Chapter five, similar to chapter four provides an integration of the description and interpretation aspects of educational connoisseurship and criticism with an evaluation component at the end of each subsection to summarize my main thoughts on the discursive practices. Figure 4 is provided again to depict my major findings because of the close connections between time and efficiency in pharmacy education.

Figure 4. Discursive practices concerning time and efficiency in pharmacy education



This chapter is organized into two sections, conceptions of efficiency and efficiently teaching efficiency. It is written as the combined and comparative analysis of course observations, interviews, and document analysis. Again, participant quotes are ascribed to their chosen pseudonyms and gendered pronouns are alternated between sections to help provide anonymity. Section one uses he/him and section two uses she/her.

Section one: Conceptions of efficiency: Description and interpretation

The efficient pharmacist

The value of an efficient pharmacist was explained in courses. For example, students learned that compensation for pharmacists were tied to volume of services provided, thus pharmacists providing faster care would result in higher reimbursement. It was also explained that models, algorithms, and procedure improve efficiency because students and pharmacists can then spend less time thinking about what needs to be done. Students also learned about embracing certain kinds of leadership styles that do not waste time. Students were also exposed to frequent scenarios about the busyness of pharmacies and the prescription load. Instructors suggested to students that the solution would be to increase efficiency. This led to the recurrent message in almost all courses I observed that efficient ways of working lead to time-savings which then allow pharmacists to do more. For example, one suggestion for efficiency was by controlling time with appointments, which has the effect of reducing wait time as well as allowing planning for other pharmacy services. Efficiency also included delegating work to others, which gave pharmacists more time. Students were given examples such as the professionalization of

pharmacy technicians and passing on dispensary work to them. By finding efficiencies and standardizing work, patients and workers are supposed to benefit. In particular, students learn that because patients are often in a hurry, pharmacists must be efficient to meet their hurried needs. They were taught that attire distinguishes the pharmacists in a pharmacy, which reduces wasted time and effort from patients trying to identify them. Thus, students learned that creating more time through efficiencies was a goal for pharmacists. However, a potential drawback students learned was that efficiencies may reduce work hours, which is inevitably tied to compensation. And students learned early in their studies about the struggle between business and patient care within the pharmacy profession.

In documents, interviews, and observations analyzed, efficiency was most often described through work differentiation. The frequency in which pharmacist roles were delineated from pharmacy technician roles was indicative of the message that delegation was important. Following are examples from three documents I analyzed.

NAPRA (2014) stated the differences between pharmacists and pharmacy technicians and importantly, the need to define roles.

> Pharmacy technicians recently became a regulated profession in some Canadian jurisdictions to more effectively assist pharmacists in their role and allow them to take on more clinical, patient-focused services. Having the two groups, pharmacists and pharmacy technicians, working in the same pharmacy environment increases the importance of clearly describing their respective roles. (p. 3)

A PEBC (2021) document stated that PEBC is guided by NAPRA competencies, and a similar idea was expressed,

> Pharmacists are primarily responsible for drug therapy advice and decision-making, focusing on the clinical aspects of patient care. Pharmacy technicians are primarily responsible for the technical functions and for referring patients to the pharmacist for drug therapy advice. In many workplaces, pharmacists take or share responsibility for these technical functions, and must be competent in "Product Distribution". (p. 2)

An activity from an experiential learning rotation manual (PPE 305 Manual, 2020) cements the need for efficiency and the solution of work differentiation as students were tasked,

> note how the workflow of the dispensary is managed in order to maximize efficiency (e.g., task assignment; priority setting/ranking order of completion of tasks by level of importance or urgency). Distinguish between the key duties of the pharmacy manager, pharmacist-in-charge, staff pharmacists, pharmacy technicians and pharmacy assistants and recognize how these jobs are highly interdependent. (p. 13)

Through interviews with students, it became apparent that most thought efficiency was important as a professional. Efficiency was considered a prized quality because it enabled the pharmacist to do more or obtain more. Jim explained, "my idea of efficiency is that if you're a really efficient pharmacist, then you'll have time at the end of the day, to do services or something like that." Similarly, Derek expressed some dismay but acceptance that "I think that's how they became [owners or managers], by efficiency, by numbers, high dollars. And that's unfortunately the way it works." And Capsule described an efficient pharmacist positively,

> she'll kind of do whatever she can to make the workflow quicker and kind of get things done. So she's kind of person who doesn't put things off, she'll keep doing things, she'll do everything that she can to make sure that people aren't waiting.

Efficiency was often connected to delegating tasks, and inefficiency a consequence of not delegating. For example, Capsule explained, "I think pharmacists, community

pharmacists, they're overworked. I don't think they utilize registered pharmacy technicians enough." Oreos similarly said,

> I have noticed that pharmacists do a lot of work that could be done by a pharmacy technician or could be done by a pharmacy assistant. And to me, that time that they're spending doing that work isn't being used as efficiently or as effectively as it could be, where they could be doing med reviews, or they could be doing more clinical services, or interacting with patients or out in the aisles recommending over the counter products.

While describing an efficient pharmacist, Cassidy pointed out delegation of work to students, "she doesn't do as many counsels or something, for example. Like, if I'm there, I'll do them all, and she won't do any, she'll just be kind of checking." However, a few students commented that some pharmacist tasks cannot be delegated, which may affect efficiency. For example, Tomato said,

> the role of a pharmacist can't be delegated to anyone else. So then there's always going to be people who need medications…So really, the workload only goes up. And you are responsible for all of that, which comes with dispensing medications, plus all the extra stuff.

And Jim added, "the pharmacist is always the bottleneck at the pharmacy, even if they don't have a whole lot to do, like, everything at some point has to go through the pharmacist and there's no other position like that at the pharmacy." For Captain America, delegation could be more work than not, suggesting that pharmacists do the work because it's easier than trying to give it to someone else. He explained,

> you might try and push back for a little bit on all these like monotonous tasks and try and delegate out tasks. But that can kind of get exhausting at the end of the day and you just kind of say, whatever, and just do it as it comes.

Documents analyzed also referenced efficiency in the ability to use information resources during examinations and patient care. CCAPP (2020) stipulated schools must

have, “Learning programs for acquainting students with the effective and efficient use of the library, both physical and electronic, as well as with the use of information storage and retrieval techniques” (p. 30). Similarly, PEBC (2021) informs students that “candidates should become familiar with the listed references in order to use them efficiently, when provided” (Exam Format, p. 2). The wording is changed in the preparation guide, where candidates are told, “you are also advised to become familiar with the reference materials…so that you are able to use them effectively during the examination” (PEBC Preparation Guide, 2021, p. 1). In AFPC (2017) educational outcomes, and repeated verbatim in this school’s experiential learning manuals, efficiency extended to the collaboration and communication roles. Several experiential learning evaluations list the Collaborator outcome, “students work collaboratively with patients and intra- and inter-professional teams to provide safe, effective, efficient health care.” (PPE 3 Evaluation, 2021, p. 2). Similarly, the Communicator enabling competencies list, “effective oral and written information for patient care across all media” and “efficiency, timeliness” subsequently (AFPC, 2017, p. 11). A reflection activity on communication asked students to answer, “Do you feel you communicated and/or were received as a colleague? Were you sufficiently prepared for your encounter? Were you efficient and effective?” (APPE Manual, 2021, p. 12). Communication efficiency continues the observation that efficiency in all aspects of being a pharmacist is important. More specifically, it supports the underlying message that there are competing interests and a general lack of time for the pharmacist or the receiver of a communication.

More examples and detail about the commonplace usage of the terms efficient and effective together in pharmacy education are reported in a subsequent section.

Almost all faculty spoke about the importance of efficiency in the workplace setting. Farmer discussed how much pharmacists need to do in their workplace now and the need for being efficient in completing those things. From the perspective of patient care, he said,

> So you have to do it in a timely manner. Because like I said, you might have a heavy workload, and this is obviously more relevant now with this situation with COVID. And on top of that, the main thing is you're giving patients pharmaceutics, you know, things that can actually do harm.

The patient angle was also predominant in Sun's rationale, and he said,

> You do have a certain number of patients that need your services that day, or that week or whatever it might be. So I think you still have to be somewhat aware of how long you're taking to do certain things. So, to some respect, I guess efficiency is important. You know, it's great to spend an hour with a patient but you can't leave 10 patients not even seeing their pharmacist that day, you know, so I think it is important, I just think you have to really look at how that impacts other people or other patients.

Samantha also considered patients but described efficiency in their practice broadly,

> If you do things slower, you may be able do things more thoroughly, or take your time doing it but then you still have to fit everything else into your week. So I would still have to take care of the other patients and the other responsibilities at the clinic at some other point, it just may take longer to do it, if that makes sense, if you're not as efficient.

Several faculty members spoke about patient safety as an important part of an efficient pharmacist. Rose contemplated,

> Efficiency is always one that I, this is interesting, because, efficiency is great, you want to do things efficiently, but you also have to think about patient safety. So patient safety is always a big part of efficiency, even efficiency for me, because you can't just be really quick and do things that will result in error or patient harm, I guess, because of being really efficient.

Sun made an almost identical statement, comparing efficiency measured by business and that of the pharmacist's responsibility. He explained,

> Business side of efficiency looks at how many scripts you should be able to do a day based on how many pharmacists are there. I don't think that's a true reflection of efficiency in a pharmacy setting, because I think patient safety is jeopardized then. Efficiency means doing things in a way that first of all puts patient safety first, but it's done in a timely manner.

And Jess added,

> So from a patient safety perspective it's really important to be able to keep focused and be able to do what you need to do quickly but safely. So, efficiency there is very important as far as safety goes because that's part of efficiency, is making sure that what you're doing is right.

Notably, the value of efficiency was also demonstrated by what many faculty members decided were the consequences of inefficiency in the workplace. For Trooper, it meant frustration at the individual pharmacist level and low patient satisfaction, adding that at the system level, "it would look partially like things not getting done that an owner, manager, leader expect to get done, especially around clinical services and finding the balance between, I guess, core dispensing and clinical services." Rose also described the frustration of being overwhelmed and a dispensary not running smoothly, "I think you do have to be cognizant of that, because you're going to get behind, and you will get overwhelmed if you take too much time. And you're not efficient with your time and you're not prioritizing your time." DW Read was more specific and referenced wait times and patients not receiving care due to inefficiency, "in practice, really long wait times, which already the wait times are quite lengthy. So that would mean that patients aren't getting care in a timely manner. That's one of the main consequences." And Jess was specific about the impact on co-workers and their work,

> I think one of the main consequences is that from a co-worker perspective, other pharmacists, other assistants, technicians that may be involved in your workflow are coming in after you've had a day's work. If you've got a pile of stuff that hasn't been accomplished, somebody else has to pick up that slack.

These consequences of inefficiency were depicted by several students as well. Tomato explained,

> the more efficient you are, I would argue, the less stressful your workday is going to be. Because you probably won't get behind as easily. And you won't feel as pressured to get things done. So being more efficient might make yours and your colleagues day just want a bit more smoothly.

And Jane spoke of frustration when pharmacists were inefficient, "you can't have a pharmacist who has a prescription in their hand for an hour…and then you get frustrated patients, and then you got patients who don't want to be there anymore when that pharmacist is working". Faculty acknowledged that they shared these perspectives with students in classes, labs, or experiential education, therefore highlighting how students were regularly reminded that efficiency in pharmacy practice is a desired goal. However, Pharm One described the choices that pharmacists and students have and the control they have in their future practice.

> In practice, I think time is relative, essentially, it's whatever a person wants to make it. I think pharmacists have the, to a certain extent, have the ability to dictate how time affects their practice, in terms of getting things done, efficiently, effectively. I mean, they'll always be under some time constraints in their practice, but how constrained they feel or how, I think, really becomes individual to the pharmacists.

Yet the message given to students by the organization and content in the curriculum as well as direct and indirect lessons of the value and managing of time seem to contradict this notion.

Contextual understandings of efficiency

Before addressing efficiency in education, it was critical to examine the various ways students and faculty understood efficiency in their lives and practices. These understandings influence the ways in which they see efficiency in education at the school level and also how efficiency may be taught. For participants, definitions of efficiency were contextual but common elements were uncovered, specifically, managing and spending time, and relatedly, task completion and outcome achievement.

Students often described efficiency as managing and spending time. Parzival reflected on being a student and how efficiency was "to stay organized, so ensure that you're spending appropriate time, based on the weight of the project, the time that you need to study, what is going to mean most to you when you come out to practise." Similarly, Jane, described efficiency in terms of time,

> Time management is definitely a big thing that comes to my mind when I think of efficiency, like being able to juggle everything and at the end of the day, still be able to say, I did good. Feel like you achieved what you wanted to.

The planning aspect of efficiency in school was described by Kelly as "preparing for classes, or labs, or whatever that may be. Your practice labs, actually doing the prep work, going through drug monographs, whatever you're doing that day." Oreos kept an updated calendar as efficiency meant, "making sure you're writing things down and scheduling your time appropriately." Cards spoke of using time and efficiency as balancing school and life, "being able to juggle all that, I think is just, that's the efficiency part. Like don't get burnt out, be able to do all this." For Sarah, efficiency was not wasting time during the school day and

> using your time well, like I found this year, if you had an hour since we were at home, if you had an hour between classes you can use that hour to do your lab, or you can use that hour to study for your test next week, using the time that you're given to benefit your studies.

As students focused on doing well in school and learning, Peanut Butter provided a common sentiment, “it's limiting all those like outside distractions and making sure those six hours I get to study a day or five hours I get to study a day, I'm making the most out of it.”

Several faculty members also connected efficiency with being aware of and managing time. For Rose, the value of time was linked to efficiency,

> Time is precious, because there never seems to be enough time and depending on the setting you're working in, time varies because when I worked as a community pharmacist, there never seemed to be enough time to do the work of a pharmacist efficiently.

Similarly, Farmer stated,

> time is related to their work environment, how busy that their workplaces… how many clients they have to look after, how much care do these patients need, and how that affects their workload, and how efficient their services in terms of how promptly they can serve these clients and how they have to manage their time in terms of, for example, now, in terms of the expanded scope of practice.

From a management perspective, time could be saved through efficiencies, which enabled pharmacists to do more. For example, Trooper said, “in terms of getting them to do what needs to be done so that you have more time freed up… we talked about other pieces of technology, that would free up the pharmacist.” Shelly broadly explained efficiency in the workplace as not wasting time,

> Doing my work efficiently means that I'm not wasting time and trying to get from my start point to my endpoint, with as little wastage of time as possible. I think that definition would apply to any type of work.

Similarly, Caffeine described efficiency as managing time, “So thinking about how much time, thinking about what you have to do, and then planning it out and getting those things done, such that you can complete all the tasks that are required.” And Wynter stated, “I see efficiency as meeting an outcome, composing a product to a sufficient way. And without wasting too much time on things that don't matter and are not relevant.” Sam reflected on his own practice with efficiency meaning,

> trying to provide optimal care in a reasonable period of time such that other patients' appointments are not impacted. So sometimes what that will mean is that you'll have a focus, you'll focus on one specific element of the patient's care. But if there are other things that are less urgent, you might bring those back the next time that you see that patient, you'll follow up.

He was quick to add, “Now and you'd never push your patient out the door, obviously, right? But you're cognizant of time. So this is where time plays a role.”

The connection between school and the workplace was evident as students began to talk about efficiency as a pharmacist. For Derek, the connection to work was direct, “I think as a profession, I think of strictly like in the workplace, in a pharmacy being efficient.” But a similar definition of managing time emerged. For example, Captain America had thoughts of a pharmacist being required in different areas of the pharmacy. He explained, “the way that they are efficient is that they are checking in at each stage of the workflow basically, all day long. To see who needs help, to see how activities could be delegated more appropriately.” Given all the activities, Capsule gave an example of the importance of managing time,

> planning your day about, for example, if you have to prepare methadone for the day, you’re gonna do that first thing in the morning, get it all done for the day, planning it out, because if you have to do it as patients come in, then you know, that’s not a very productive way of time.

Although pharmacist efficiency was about the workflow, he also described managing the pull of staff and patients demanding the pharmacist's time. He described the efficient pharmacist as someone who could,

> kind of move through, like where you need to be can kind of change quite drastically moment to moment. So you might be at your computer, and then a customer over here, they need something and then your customer over here needs something. And then your technician needs something done. And then so sort of going through those motions with I guess, somewhat ease…like they're kind of running all over the place, but just kind of being able to, put yourself into a situation with general ease and then kind of going back to what you were doing.

In many of the examples provided above, a related understanding of efficiency emerged directly tied to the completion of goals and tasks. Additional examples were present in student interviews, for example, A. Turing explained that efficiency was,

> being able to organize your time with various tasks on hand in such a way that you can complete them with the most attention to detail as possible, while being able to complete the task and make sure you arrive to the correct conclusion."

For AMC, efficiency was broader and directly related to achievement,

> I would say as long as you do things in a way that would allow you to learn whatever it is that you need to learn. That would be efficient. Like as long as you reach the goal that will be good enough, that'll be efficient.

And Peach also connected efficiency back to school "I guess efficiency would be amount of work over grade or expected grade, like amount of work put in versus grade."

Notably, students explicitly connected a pharmacist's work efficiency to dispensing of prescriptions, for example, Alexa mentioned how "an efficient pharmacist will have to be somebody who is able to correctly assess and dispense prescriptions, you know, technically correct, but also clinically correct in an acceptable, let's say, amount of

time." Cassidy similarly referred to efficiency in terms of prescription wait time for patients,

> I find I work with some pharmacists, like some who checked their stuff really quickly. And the whole night is so smooth because they're so quick. And then others who are like, take more of their time because they're more comfortable like that. But then we'll end up by the end of the night having like a four hour wait time.

And Jim described the efficient pharmacist as "your ability to get through, like, your ability to put prescriptions through, your ability to walk into the pharmacy, do what needs to be done." This characteristic of efficiency for pharmacists was important to Cards, as he expressed,

> I personally think pharmacists are very efficient, considering how many prescriptions we have to do in the run of a day and it's kind of mind blowing that one or two people critically check and counsel on all those prescriptions during the day. So I feel like pharmacists are already good at time management. They're good at being efficient, getting their goals done.

The task-oriented way of thinking about efficiency was also common among faculty. Diane likened it to "my ability to accomplish tasks, well, in a reasonable amount of time. Or to accomplish, in some cases, the most amount of tasks in the smallest amount of time." However, he added how those meanings could be different, with one focused on the tasks and the latter constrained by time.

> So I either have potentially a set number of tasks that I want to accomplish quickly or at least as efficiently, as quickly as possible. Or, I have a set amount of time, and want to accomplish as many high-quality tasks or provide high-quality services as I can in that amount of time.

Daisy succinctly said, "efficient is being able to get the job done within the expected or normal time periods." Similar to students, faculty thought about a pharmacist's tasks, particularly filling prescriptions and managing workflow. Pharm One described

efficiency as a pharmacist as meaning “they're getting it done to the extent that you want to get it done or the extent that you feel like you should get it done, but that you're not being a hindrance, I guess, to flow in pharmacy.” Caffeine commented,

> I think you really do have to be concerned with efficiency because we have to be cognizant of the types of prescriptions we're getting, and we don't want to delay therapy any more than we have to for like things like you know, pain medications, antibiotic treatment, all that sort of stuff.

And Shelly, while mentioning prescriptions, suggested creating efficiencies as a way to improve patient care given the constraints of time. He explained,

> if you're lacking time, there is an impact on patient care. I guess that's how it relates back to efficiency and how you can find efficiencies within your pharmacy, maybe you can hire an additional technician to take on tasks that you're doing, like there might be ways to find efficiencies to improve patient care. But ultimately, if you're just too busy putting scripts through, then there's no opportunity to really take on other more advanced patient care roles.

However, Wynter recognized that an individual pharmacist’s priorities affect his or her perspective of efficiency,

> for somebody who's more business minded, it can mean how many prescriptions did you fill that day. And for somebody who, while of course caring about the bottom line, but maybe see the bigger picture in terms of patient care and meeting patient's needs beyond just giving them their medications.

In contrast, Trooper thought of efficiency more at a systems level and pharmacist roles and remarked, “It means optimizing your human resources and your technology to enable you to maximize your scope of practice. And, I guess, self-fulfillment and rewards as a pharmacist.” Combining the individual and the systems level thought, the pharmacist completing all the required work and not just the minimum was reinforced by Bill,

> it means that you're able to get your work done in a timely manner. And that's in an environment that is to the best of its ability, encouraging, or allows you to get your work done in a timely manner, as opposed to, just kind of like, throwing into

> the lion's den, and basically do the bare minimum. And so when you're efficient, that means you're doing your job, which is more than just putting pills in a bottle."

A couple of faculty members expanded on the task-based understanding of efficiency and spoke about doing tasks in a procedural or process-based manner. In this way, efficiency was mostly thought of positively from a thoroughness perspective, as Farmer explained when discussing patient assessment, "so that you do that efficiently in terms of you follow a process." He added that errors and patient harm could occur in prescription filling, "if you're not efficient and you don't follow those steps like looking at the prescription, looking at the patient, looking at the patient records in terms of other drugs…and you have to do it sequentially." And Watercolour similarly commented, "There is value in having a systematic approach on many levels, because it makes sure that you don't miss things." However, he also warned that process could seem robotic especially as students learn how to teach patients about their medications. He elaborated,

> I never liked the way that we taught students to do medication teaching, for example. It was that Indian Health Model or something and I would have students out in the hospital with me talking to patients, and I felt like they were following a process. And when you follow a process, and you don't think, you come across as very robotic, very uncaring.

The contextual understandings of efficiency made interviews rich and fruitful, highlighting the different ways that students and faculty would use the term in school life and practice. In my interviews, there were many similarities between students and faculty surrounding efficiency especially on managing time, completing work, and achieving goals. This led to conversations around the relationship between efficient and effective.

Efficient versus effective

In many examples previously provided and those to come, the terms efficient and effective were often used together and sometimes used interchangeably. There were various combinations of the terms as used by participants, which mirrored the difficulty in separating the two terms in documents that did not have clear written explanations. Therefore, it was important to explore how participants understand the terms as they relate to pharmacy practice and education. For some, efficient and effective had different meanings and held different degrees of importance. For some, efficient and effective had similar meanings. And for others, efficiency was part of effectiveness such that one could not be effective without also being efficient. And for a few, effectiveness was part of efficiency such that one could not be efficient without being effective. These conceptions were not held absolutely and there was complexity when context was added, especially when participants spoke about education compared to being a pharmacist. However, regardless of the definitions, understandings, or contexts, both terms were valued and deemed important qualities by participants in school and practice. A quote from fourth-year student, Capsule, highlights this paradox,

> I would think of them as very, very similar, I guess in different ways, though, because something that is effective might not be efficient…For example, if you did like a medication review and you sent like a million notes off to the doctor. And it's really, really effective and makes a lot of good changes, doesn't necessarily mean it was efficient if you took five days to do it. So I think they can be related in some ways, but they can also be not related. I think it's kind of like time effective, and then efficient would be more similar.

Some students had to pause and think about the similarities and differences between the two words when prompted for clarity. For example, Alexa described an

efficient pharmacist, “if they're always looking for ways to kind of improve their workflow and their process of working” while later explaining that he was “explaining her being effective as a manager because she improved the efficiency.” Whereas Cassidy equated the terms,

> I would say they're similar in my mind. If I was going to say it in words, I would say probably the same thing for both now that I'm thinking about it…Effectiveness, I guess, is just like, getting stuff done and having it right. Like getting it done kind of quickly, but also right, there's no mistakes or anything.

Peach similarly contemplated the differences and eventually equated the terms,

> I think maybe I sometimes I get confused between efficiency… But if someone's not that familiar with the place, they may not be as efficient in that sense, but they’re still being as effective as they can, in that role, so I think they would be the same.

However, Derek thought the terms were quite different, with efficiency as a “simple equation, top-bottom, amount of work divided by time” compared to effectiveness being a more personal and professional quality. He further explained,

> you might be getting a lot of prescriptions in and out but are you counseling right? Are you checking those prescriptions actually? Are you doing the other stuff that might not play into that equation? … If you can't talk to somebody without having your head down, or you can't communicate effectively, then you might be very efficient at getting people in and out the door but are you actually effective as a pharmacist doing the job? I think they're different in that sense.

In a similar fashion A. Turing compared two individuals doing the same activity or task which highlights that efficiency and effectiveness are ways to differentiate individuals. He commented,

> if the next person to you is able to do the same or arrive to the same conclusion, while making a good use of their time, then you would say that they balance the seesaw and are able to be effective and efficient.

Parzival reflected on the difference based on his own experiences and recognized that "maybe sometimes if you have a question and you need to be efficient, you might not have enough time to answer it, so it might not be the most effective response." And Captain America also referred to his experience,

> you can be really effective in completing a task, that is, meeting your objective without necessarily having maximized your time. Like, if you're doing a pharmaceutical care case work up, you could take four or five hours and make it the best pharmaceutical care workup that you've ever done in your life but that's not necessarily doing it efficiently, I guess.

Importantly, he recognized it was better to be efficient and explained, "that's very perfectionistic and probably something I would be guilty of. You're not really focusing on the main objectives in that case, and you're overthinking things, and you're just not maximizing your time." Jim had similar thoughts as he implied the significance of efficiency by emphasizing that there were other tasks a pharmacist was required to do. He said, "You might accomplish a certain task really well and be effective. But it might not have been efficient, because now you have 10 other tasks that you should have also been able to accomplish within the same time." In contrast, Peanut Butter emphasized being effective and slow, so not particularly efficient, when he was learning. He remarked,

> I think you can be effective but not efficient. I think sometimes for certain things, like to do it well especially at the beginning, I mean for me as a student I could rush through things and I could have five mistakes in it. But if I'm doing it slowly, I'm more confident that it's going to be done well. So yeah, there is a bit of a reverse there.

AMC also thought being effective was important as he started practice, but similar to Captain America, valued efficiency in the future and explained, "if I am a clinical pharmacist, like in the first few years, I must be effective. But I might not be efficient but

hopefully, with the buildup of knowledge and experience, I can be efficient." For Tomato, the terms were often intertwined but sometimes disconnected. He explained,

> sometimes in order to be effective, you have to be efficient but not always. Like you can be effective in a longer amount of time… And sometimes you can be efficient, but not necessarily effective. I think usually they go hand in hand, like it's no good to do something quickly if it's not going to be done, right and if it's not going to be effective the way that you did it. And it's never any good to just be effective if it takes you way too long to do it. And like that kind of diminishes on how effective you are because you didn't do it quick enough. So I do think that they're connected in some way, you almost need to be effective and efficient in order to get the best result. You can't have one without the other.

This sentiment was echoed by several other students including Sarah, who said,

> if you want to do something efficiently, you want to do it right. You want to be effective in what you're doing. And I mean, I would say you can be effective, not efficiently, you can be slow and get the job done. But to be efficient, you would have to do it well.

Second-year student, A. Turing noted succinctly, "you certainly need both as a pharmacy student and a pharmacist."

Faculty members had various conceptions of the relationship between efficient and effective, much like the students. Some faculty members considered efficiency as contributing to effectiveness, whether it was speaking about pharmacy practice or education. For example, Samantha described an efficient practitioner as also doing things effectively, recounting situations where,

> individuals that I work with that seemed efficient, they really weren't being efficient, because they were cutting corners and doing things quickly but not necessarily doing things well. And I would never use the efficient word when I would refer to those individuals. I would consider someone being efficient in the fact that they're doing the work relatively quickly, so not spending a lot of time, but also doing things thoroughly and doing them well. That's what I would consider an efficient workflow or an efficient person.

Pharm One explained, “I think if you’re efficient, you should be effective”, relating to practitioners responding to questions, “I place high value on succinctness, because I view that as being very effective. If you can get your message across in the shortest amount of time or amount of space, then you will be a more effective practitioner.” Trooper likewise commented,

> Effective, it's the next layer above that. You're getting things done, but you're also good at what you do. So I guess that effective is a layer above efficiency, you can't be effective if you're not efficient I would think in some ways…You need to be efficient before you can be effective. Because if not, you're not gonna get all the things done that you need to get done, I guess. I don't know. I'm struggling now but I think effective is one layer above efficiency.

A few faculty acknowledged similarities between the terms. Farmer said, “it's really hard to separate those two concepts of efficiency and effectiveness” when discussing patient care, whereas DW Read thought the terms were similar but added an afterthought,

> I guess they don't have to be. I like to think that they are. I like to think that efficiency is doing something quickly, but well…And I guess not quickly, I don't like that word. Because that to me sounds rushed, I guess in a timely manner but well.

Sun similarly brought the terms together while being mindful of completing tasks well,

> they almost can, I guess, be used interchangeably in some respects. Because I think in order to be efficient, you need to do things effectively, in order for things to be effective, they have to be done efficiently as well.

In contrast, Diane separated the two terms, with efficiency being a potential quality of effective work. He explained, “something that's effective is something useful that accomplishes my goal and something efficient is something effective, that was done in a reasonable or appropriate or streamlined amount of time.” Daisy also differentiated

between efficient and effective in a community pharmacy, referencing the minimum standard notion that some students discussed. He said,

> I could be efficient in that I put out 20 prescriptions in 30 minutes, and I did the legal requirements of the checking, the counselling. But I don't know that I was effective in say, educating the patient, necessarily. So I don't know if in being efficient there's enough time to also ensure that you're effective.

Candidly, Watercolour thought that they could be opposites,

> efficiency means that I'm completing tasks, with the least amount of time or effort. Doesn't necessarily mean effectiveness. I think they're very different. Just because I'm efficient, doesn't mean I'm effective. And in fact, sometimes I think it's the opposite.

While relating to pharmacy practice, he remarked with disapproval,

> I can be very efficient with my [patients]. And very quickly if I want to assess what I need to do with them and put them on a [medication], and send them off, in two or three minutes, occasionally follow up and see how they're doing. That's very efficient.

Caffeine also thought they were different,

> You can be effective, but not efficient, in my opinion, like you can take a long time to do something that ends up being very effective. But, you know, in one particular task, but then you've kind of forgot about some of these other tasks. So in my head, they're different, like efficient is getting things done well, and then being able to sort of juggle everything, whereas effective to me means, you can do well in this one area, but you're, it's hard for me to explain, but in my head they're a little bit different.

While there were differences in definition, many participants pointed out that efficiency is based on achieving outcomes, results, and the completion of tasks. Thus, efficiency is a quality that can be defined and measured. Effective, as faculty members Rose and Bill described, is more difficult to determine. Bill commented, “we do have some markers of effectiveness. For example, just basically how well are the students doing but then that assumes that your assessments are good.” He added,

> And then another way that's objective is PEBCs. I mean, I don't know if I have a lot of faith in PEBCs, I don't understand why they ask the things they do. And they provide us with very little guidance on why they do the things they do. But that is technically an objective measure. It normalizes us against the rest of the country.

Farmer interpreted that pharmacy education was efficient and effective if student success on the PEBC exam was a benchmark. He mentioned,

> I think that from the courses that I have been involved in, [courses listed], I think it's being done efficiently and effectively. And that shows there is a great level of success in the students that graduate from the pharmacy school, as I understand it, in terms of passing the PEBCs.

Rose contemplated how to define effectiveness and reflected on the program,

> Does it make them better pharmacists, I think only time will tell, really. And how do we define that? Like how we define better pharmacist, you know, like, do we look for people who embrace change? Do we look for leaders in the profession? Do we look for folks who practise the full scope? Like what defines that? I think this is the thing, we don't define it ourselves. We haven't come to any clear consensus on it.

For Daisy, the PEBC exam could also be a marker of effectiveness of the education program but may not show the whole picture, as he mentioned,

> we've looked at stats coming from PEBCs and sometimes we can find years where our students did poorly in a particular area. But I don't know if we've had trends that necessarily point in the same direction all the time.

Compared to students, these faculty members had similar thoughts and struggles on the connection and equivalency of effective and efficient. However, they also had specific thoughts about what constitutes an effective pharmacy education, which seemed to revolve around student success in licensing examinations and future practice.

Section one: Conceptions of efficiency: Evaluation

In the evaluation part of connoisseurship and criticism, the educational significance and value of the findings are explored in relation to the case and the broader pharmacy education context. My evaluation explores implications of the conceptions of efficiency and brings meaning to the complexity of pharmacy educational practices revolving around efficiency.

In the section on the efficient pharmacist, efficiency is encouraged and taught as work differentiation, particularly the separation of student, pharmacy technician, and pharmacist tasks. This was thought to be the appropriate way to organize practice and provide pharmacy services and was reflected in educational outcomes and national standards. For example, NAPRA stated the "importance of clearly describing their respective roles", a PPE manual described processes to "maximize efficiency", and AFPC stipulated communication competency as "efficient and effective". Pharmacy education that follows these standards further reinforces the importance of efficiency. Yet, students and faculty expressed that a significant reason for efficiency was that it allowed pharmacists to increase services and do more, as Jim said, "you'll have time at the end of the day to do services." Relatedly, some participants connected pharmacists doing more to the achievement of business goals and expectations, thus providing another example of the relationship between pharmacy business, pharmacy practice, and pharmacy education. Critically, the efficient pharmacist was revered by students and faculty because there was a presumption that there were other patients to provide services for. For example, Sun said, "you can't leave 10 patients", Samantha discussed "care of

the other patients", Capsule talked about making sure "people aren't waiting", and Jane said that inefficiency leads to "patients who don't want to be there". Thus, the efficient pharmacist providing care resembles an assembly line of patients in contrast to the stated professional ideal of helping individual patients and their comprehensive health needs.

In the section on the contextual understandings of efficiency, the value that students and faculty placed on efficiency demonstrated the result of discursive practices in pharmacy education. For many students, efficiency was about completing all their school and extracurricular work as Cards felt the need to "juggle all that" and Jane similarly thought about "being able to juggle everything". As faculty participants began to talk about efficiency in pharmacy, it was, as Shelly described, "to improve patient care" or Trooper explained, "to maximize your scope of practice". This sentiment of doing more was expressed by Wynter as "beyond just giving them their medications" and Bill as "more than just putting pills in a bottle". However, efficiency was task and goal based, for example, Daisy said "get the job done", Pharm One said "getting it done", and Caffeine said "getting those things done". But if efficiency is the solution to improving patient care because pharmacists can then do more, problems arise because efficiency leads to treating patient care as a task. As Sam pointed out, "you'll focus on one specific element of the patient's care" or Farmer's thoughts on "how promptly they can serve these clients", efficiency often focuses on the time it takes to complete the task rather than the effectiveness and quality of care for the patient.

To explore the meaning of effective, participants were asked about the relationship between effective and efficient. In school, A. Turing talked about balancing

the “seesaw” of effectiveness with efficiency to complete work. Similarly, Captain America warned about being too “perfectionistic” while Peanut Butter mentioned “it’s going to be done well” if he took more time. The time required for work was always on these students’ minds instead of an attitude of taking the time to learn. It was exemplified by Tomato’s explanation that “it’s never any good to just be effective if it takes you way too long to do it.” Participants were often more worried about the time it took to do accomplish lots of tasks and goals as opposed to the more critical consideration of doing things right. For example, Daisy wondered if “there’s enough time to also ensure that you’re effective” and Caffeine explained how being effective in one task may mean “you’ve kind of forgot about some of these other tasks”. Even in areas of pharmacy practice or education where effectiveness was valued, the terms efficient and effective were often combined, as Sun mentioned “in order for things to be effective, they have to be done efficiently as well” or Samantha’s perspective of “not spending a lot of time, but also doing things thoroughly”. How these thoughts are formed and perpetuated by discursive practices in pharmacy education are further explored in the subsequent section.

Section two: Efficiently teaching efficiency: Description and interpretation

How to become an efficient pharmacist

As shown in the section on controlling time and timed activities, many faculty had described timed activities and experiential education. These were ways to teach students time management in practice, thus efficiency as a pharmacist. To give two examples, Jess explained that students are aware of their own time in school yet may have difficulties grasping efficiency until they experience it on experiential rotations,

> as far as their studies, they understand the demand on their time. But I think until they get into some of the experiential learning, and get out into community pharmacies and hospital pharmacies, to see what is, what the demands are, from day to day, understand the importance of being able to accomplish many tasks in a small amount of time.

And Samantha similarly stated their aim of,

> having the expectation that the students complete the work within the assigned time. So I would plan say a three hour lab with the activities that are realistic to that time period, and expect the students to finish it by then, rather than students being slower, not being as efficient, and kind of staying behind in the lab and getting things done more slowly, then that's not helping them in the long run.

However, many students did not think that the school explicitly taught in class how to be an efficient pharmacist, although when pressed, several mentioned that timed activities, particularly OSCEs, may be a part of that. Jane commented, “I can’t think of anything that has particularly taught me”, while Kelly attributed learning about efficiency in a pharmacy from experience, cautioning that multi-tasking and managing time would be too much for a student. She said, “That's just kind of something that I've witnessed, like in my couple years now of experience just working in a pharmacy. I think it would be too stressful for a student, for the school to put you through that.” For John, “I guess the only thing I can think about really is the OSCE. So especially the live OSCEs where it's timed, you need to learn how to look through your resources as quickly as possible.” She added that long tests with limited time also encouraged speed,

> I guess the same thing goes for tests, like, [pharmaco]therapy tests are often really long. It kind of takes a lot of focus to be able to come up with answers in the amount of time that we're given. So I guess it teaches you to think on your feet, kind of.

Parzival similarly found it difficult to think of ways that efficiency was taught but mentioned OSCEs and assignments. She said,

> emphasizing the importance of doing OSCEs quick would be one example. And I feel like there's examples, I just don't have them off the top of my head at the moment. But you know, like, setting a project to a certain time length can make like, make a cut off, you need to make it so that you're within that time range, that can sort of put that there for teaching efficiency, I guess. Nothing else comes to mind just right off the bat.

In explanations including the OSCEs, limited time encouraged students to complete the activity faster. For example, Tomato said,

> in the pharmacy practice courses, because whether you have 30 minutes to answer a drug information question or whether you have seven minutes to complete the OSCE. It kind of gives you a taste of what the real world is going to be like…It kind of teaches you how to be efficient in that sense, like what's the quickest way that I can find the best or the most amount of information to give out.

Cassidy also explained,

> I guess there is kind of the emphasis on just being like, not rushing, but not just taking your time, for those time-based activities like you said. I remember we did those, not the verbal OSCEs but the checking OSCEs and stuff and that was like seven minutes or whatever, just to kind of, you know, have a brief look through it.

But while Jim thought that pharmacy practice labs teach efficiency, she mentioned how individual activities in those labs may not be done well, "you might only have three hours in a practice time slot as a whole, so in order to be efficient, you might sacrifice some time on one project, so you can move to the other and get that done." Such time limits were not necessarily experienced negatively, as A. Turing explained there was a sense of satisfaction that came with completing work within the time frame and not having to stress about it or return to the work and make changes. She said, "if you consider a strict deadline, time allows you to finish a task and have the mental satisfaction of essentially finishing it. And knowing it's behind you."

Aside from pharmacy practice labs, Peach also mentioned pharmaceutics labs and completing several activities at once. For example, she said,

> I can think of in pharmaceutics labs, those you had to do more than one compound or something at once. I can't remember. I feel like there was one lab like you had to wait for something. And while that was waiting, you did something else, I feel like that was a good example of what community is like, you're doing kind of two things at the same time.

And, as explained by two students, the school taught efficiency by having a constrained timetable, multiple commitments, and making students balance all of it. Cards said it was important to teach

> pharmacy students or any students, early in their career, to try to balance everything… I've juggled that along with everything else that has to be juggled in pharmacy school… The sad reality is that you do have to juggle a lot of stuff in order to be efficient. And so I guess it preps you for that in school in a very subtle way that they did kind of prep us for that kind of stuff.

Capsule echoed, "we definitely have to practise being efficient, you know, with our courses and with our, you know, planning our time, and we have to be efficient." However, in her school experience, she added,

> I think we're taught more in pharmacy school to take the extra 10 minutes, even if it's going to not be efficient…I think we're taught in pharmacy school to go the extra mile, even if it's going to put you like 10 minutes behind.

In the pharmacotherapy set of courses, pharmacist efficiency was not explicitly emphasized, although students were told to consider cost-effectiveness, convenience, and speed of pharmaceutical interventions. They were taught to follow flow diagrams and algorithms for diagnosis and treatment of disease, which would help triage and provide patient care appropriately. Similarly, in pharmacy practice courses, efficiency as a description of work or practice was uncommon. Some examples include the mention of

efficient drug distribution systems or health system efficiency through patients managing their own care for minor health issues. However, much of a pharmacist's work is described as a systematic process or series of steps that must be followed resembling a set of tasks that could be accomplished efficiently. A number of these tasks are described below.

Prescription dispensing was a series of steps repeated for each new prescription and new patient. In relation to screening prescriptions, instructors informed students that they can develop tricks to complete these activities efficiently. Examples provided to students show instructors going from identifying legal requirements before going through therapeutic problems, although no explanation was observed why this was the way to complete the activity. Other pharmacist work like counselling was initially presented as a script with standard questions and a checklist with defined requirements. Patient history taking was also systematic and students were told that structure allows for consistency between patients. Pharmaceutical care was described as a systematic process, with a comment that students often skip steps, which leads to issues including missed problems or missed considerations for treatment. In interactions with patients seeking self-care recommendations from a pharmacist, a systematic process called QuEST was taught, and stands for:

- Quickly and accurately assess the patient
- Establish that the patient is an appropriate self-care candidate
- Suggest appropriate self-care strategies
- Talk with the patient

However, the purpose of starting this process with Quickly was not explicitly discussed. The QuEST format is reiterated in experiential learning manuals for second year and fifth year students as the method of choice for patient assessment. This was tied to urgency and the busyness of a pharmacy as described in previous sections, with students learning the need to work efficiently. However, one caveat occasionally occurred when students were asked if time was sufficient for activities and told to not rush through.

Efficient note writing was also emphasized in several courses, with conciseness being important and repetition discouraged. Students learned that longer notes detract from the effectiveness of the note with an additional rationale that reading efficiency would save time for both the pharmacist and reader. More directly, one documentation activity in the APPE manual (2021) required students to

> Submit a brief reflection (~ 4-6 sentences) in the designated drop box in Brightspace about your ability to incorporate documentation of patient care activities into the workflow of a busy practice setting and the role of technology to facilitate it. (p. 12)

Therefore, teaching documentation efficiency in class was aligned with experiential learning activities where students were reminded about the need to be efficient because of the busyness of pharmacy practice.

In the social and administrative courses I observed, efficiency was emphasized from a business and health system perspective. Efficient workflow was a necessity for success in business operations and should be part of the evaluation of pharmacy services. Scenarios presented to students showcased processes and efficient ways of working, for example, incorporation of new technologies for the dispensary. Students were taught that pharmacists need to continue to find efficiencies and innovate in their professional

practice, to provide more services of value to patients. In addition, the elimination of inefficiencies was imperative to business success. For example, a management model called Lean was discussed, which encouraged pharmacists to identify and eliminate waste, and understand and analyze staffing, resources, and technology to find more efficient ways to do things. Educational outcomes and course objectives are tied to this concept. For example, AFPC's Professional role requires that the student, "evaluates the safety, efficacy and efficiency and cost-effectiveness of pharmacy services" (AFPC User Manual Section E, 2017, p. 12). And NAPRA's (2014) Practice Setting competency stated, "Pharmacists oversee the practice setting with the goal of ensuring safe, effective and efficient patient care." (p. 8), with enabling competencies all explicitly supporting efficiency.

Most faculty members commented on the role of business in pharmacy practice, where demands on pharmacists' time are created. Sun explained the economics of pharmacy services, relating time to amount of work,

> I think our services have actually expanded. So you would think we would have more hours or more pharmacists to do this but in actual fact, I've noticed, in many cases, pharmacist hours are being cut back. That places a greater demand on pharmacists because you're having to try to do the work of two pharmacists during certain times of the day. I think it's related to the business side of thing in that they are cutting on expenses by reducing hours paid to more than one pharmacist and that's why I think you see those longer hours punched by certain individuals, and more burnout because you're working by yourself a lot more.

Jess related this to public demand on a service industry with some optimism through pharmacist advocacy. She commented,

> I think the demand is there from the public, because they've become accustomed to a fast paced, on demand type of service industry… I think perspectives have changed somewhat over the last number of years with, like promotion of what a

> pharmacist does and whatnot. But I think in general, there's a real background as far as it being a service industry, and the business owners we'll say, corporations and whatnot, have really turned it into or had really viewed it as just a business, you know what I mean, instead of the health care service.

Rose mentioned the change in perspective over the years on what efficiency meant with respect to patient care.

> I just think if you asked me that question, probably 10 or 15 years ago, I would have told you something completely different. Like as a new grad practising, I remember the pharmacist that was there for 20 or 30 years that I worked with first was really, I guess, efficient. But there were corners cut, just put it that way. And probably patient care may have been lacking a little bit. But as I gained experience I realized that you can meld both together, like you have to find ways to be efficient in the environment you work, but also ways to make sure patient care stays at the top and that patient safety, there's no patient harm, that sort of thing.

Despite these thoughts from faculty, efficiency through time management in the workplace was explicit in educational outcomes, as one experiential learning evaluation document stated, the student "Manages their own personal practice and recognizes the importance of efficiency in the workplace (i.e., demonstrates organizational and time management skills; appropriately establishes priorities)" (PPE2 Evaluation Form, 2021, p. 3) and this was explicitly mapped to AFPC's Leader-Manager outcome. For reference, AFPC's (2017) Leader-Manager role stated, "As Leaders and Managers, pharmacy graduates engage with others to optimize the safety, effectiveness and efficiency of health care, and contribute to a vision of a high-quality health care system" (p. 13). These perspectives showcase how pharmacy business demands efficiency and how students are expected to be efficient in the workplace.

While learning that efficiency allows pharmacists to do more, students were also told that they could not solve all problems and thus, prioritizing them to be addressed at

different times was important. Essentially, time was still a limiting factor despite having efficiency. Interestingly, students were told that the creation of analytical checklists for case-based scenarios had one piece of information per item and followed a sequence. This was outlined to students as four sections: introduction, gathering information, options and management strategies, and monitoring and follow-up. Students were expected to follow this sequence and instructors told students the appropriate amount of time to spend. They should divide up their time during such interactions and focus on the specific analytical sections with a dedicated amount of time, for example, spending 2-3 minutes for gathering information. Students were also taught that patients may not be efficient and that pharmacists need to counteract this during the interaction. It was explained that efficiency meant not spending time on irrelevant matters and to only go to extra parts of the patient interaction if there is time.

A systematic and standardized education

Starting from the guidance documents for schools, the quartet of AFPC, NAPRA, CCAPP, and PEBC create an efficient program through compelling schools to adopt standards and in some ways, particularly CCAPP, enforcing such direction.

The AFPC (2017) documents explained that the Educational Outcomes "describe outcomes that are measurable and achievable within a 4-year pharmacy program, to support curriculum design, evaluation and quality improvement efforts" (p. 4). Similarly, their sub-components or enabling competencies are created "deliberately broad but are sufficiently specific to provide direction in constructing learning goals and objectives for

individual courses that make up a program" (p. 6). And more explicitly, AFPC suggested that,

> If a curriculum designer knows the intended outcomes, it is possible to define learning objectives that relate to each competency. Those objectives can then be organized into units of instruction or courses. When those units of instruction or courses are delivered in a particular way (Structure), this enables a student to achieve the intended outcomes in a reliable, efficient and effective manner. (p. 7)

Thus efficient education is an important guide and goal in the creation of national educational outcomes.

Within the AFPC document, the concept of entrustable professional activities (EPAs) was considered and development was supported, emulating what other countries were using. EPAs were defined as "essential tasks (activities) of the practice of pharmacy that an individual can be trusted to perform within a given timeframe and that can be delegated to that individual to perform." (p. 7) Standardization of EPAs was touted as a way to promote consistency of expectations of pharmacy graduates across Canada. Importantly, EPAs were connected to time and efficiency in education as it was suggested that once achieved, "the milestone has been reached and it's time to move along to preparation for the next milestone" (AFPC User Manual Section A, 2017, p. 9). Thus pharmacy education was understood as a sequential and procedural undertaking rather than one that fluctuates, which eliminates the need or reason to revisit or repeat learning.

Regardless of the terminology (i.e., competencies, outcomes, or EPAs), the defining of what pharmacists should know and what tasks they should be able to perform

was considered important and aligns with NAPRA's (2014) Professional Competencies for Canadian Pharmacists at Entry to Practice document.

> The document on professional competencies at entry to practice exists to guide the development of educational outcomes, educational program accreditation standards and national competency assessment examinations. As a secondary goal, this document also provides pharmacy students, pharmacists and the public with information on the expected competencies of a pharmacist at entry to practice. (NAPRA, 2014, p. 1)

An important part of NAPRA's mandate is to facilitate labour mobility across Canada, and in the document it says, "Although the scope of practice of the Canadian pharmacist may vary from jurisdiction to jurisdiction, the core competencies expected of pharmacists must be consistent nationally in order to facilitate labour mobility" (p. 2). So in addition to AFPC as a national body, NAPRA's existence and purpose also feeds into national standardization of pharmacy curriculum.

To add to AFPC and NAPRA, another way in which standardization is adopted into the program is through accreditation standards. CCAPP (2020) criterion 7.2 requires programs to have and show evidence that "a variety of assessment methods are systematically and sequentially applied throughout the program to provide formative and summative feedback to students, and to confirm students' achievement of educational outcomes" (p. 14). Although CCAPP did not use the word efficient in their standards, the nature of their requirements and how they specify what is considered evidence for achieving each criterion, create an efficient way for schools to plan a curriculum and structurally leads to a curriculum that is efficiently organized. For example, for their first criterion related to educational outcomes, they state "examples of evidence" (p. 8) include:

- Outline of educational outcomes and entry-to-practice competencies adopted by the program
- Curriculum mapping of educational outcomes or matrix of outcomes linked to course materials and expected level of achievement
- Graduation rate
- Success rate in national board examinations where applicable

And last but not least, PEBC bases their examinations on NAPRA standards, securing their assessment before pharmacy students can apply for licensure. PEBC exam questions and OSCE stations are each linked to specific objectives and competencies, suggesting that students can reach or achieve such skill through a time-based examination. In addition, a PEBC document tells students that each question on the multiple-choice section of the exam "assesses one specific competency" (PEBC, General Information, 2021, p. 4). While rationale for this format was not provided, it reinforced how learning can and will be counted. Any deviations would be difficult for a school to endorse because it is required by accreditation, as CCAPP (2020) wrote, "The curriculum has content of sufficient depth, scope, timeliness, quality, sequence and emphasis" (p. 11). Therefore, decisions for curriculum are no longer school specific, but rather, systematically organized externally.

Moving internally, the organization of the School's curriculum indicated an efficient way of providing student education. The organization of pharmacotherapy courses into timed blocks and examinations on content that follow these blocks was a systematized and efficient way to deliver and subsequently test knowledge. Commenting

on the organization and testing aspects of pharmacy education, Wynter saw a resemblance to prescription filling.

> You know, we're talking about the pace of spitting out those prescriptions, taking care of the bare necessities but maybe not giving every medication or patient who's getting the medication, a full, thorough review or the time. So I think an analogy can be made even to the testing and midterms and exams where it might be all sort of clumped together. And they're just doing them because they got to do them. And they may not be giving the material the thought that it requires, because it's just one after, just like prescriptions, one after another after another, and got to get on to the next midterm. And I don't know what can be done about that. Our program is not, well our discipline and our program are not unique in that respect. But I don't think that's benefiting the students, just like I don't think pumping out prescription after prescription without the due time is benefiting the patient or the pharmacist.

In other observations, most courses had several prerequisites and corequisites such that students had to take them in a sequence defined by the curriculum. This appeared to create inflexibility to account for students who for personal or external reasons have difficulty adhering to the stipulated timetable. Oreos, a second-year student commented, "it doesn't really give a whole lot of flexibility for someone who is facing a challenge in their life that is out of their control." However, coordination of these courses was intentional and described as efficient and effective, particularly around the content taught. This was explained by a few faculty members and Shelly said in detail,

> we are trying to change our program more and more to integrate things across courses, so you know, in Skills picking up on things and topics that are done in Therapeutics, and that might carry over to other courses, too. So the integration of knowledge across courses to help people develop skills, I think that's an efficiency… because otherwise you're leaving it to the students to bridge the gap between the knowledge and the different courses. So I think it creates efficiencies when we align it intentionally for them to connect the dots. And it's probably more effective, because if they can focus, say, if diabetes is the topic, that they're learning about then they can, because they're not dividing their attention in multiple different directions to try to learn content from different courses. So it's both effective and efficient.

Samantha had an identical perspective, while adding the defined time for content. She described,

> So now the program is structured so that it's all taught, at least in that one calendar year. It's not completely integrated, but it's a little bit better in terms of some concurrent teaching. So they're getting the patho[physiology] and the pharmacology in the same year that they're getting the pharmacotherapy, and we're teaching it in the therapeutic blocks. So that part is helpful in terms of being more efficient.

This process led to a highly structured, sequenced, and organized set of topics or content. And within courses, students and faculty would have to adhere to this in order to maintain the intentional connections to other courses.

While some variation in course scheduling occurs in the final experiential year of the program, it is arranged and managed by availability of practice sites rather than by purpose. The PPE handbook (2020) for all experiential rotations stated, “These courses will be completed at arranged times throughout the final year. The order in which they are done will vary from student to student (i.e. they are not required to be completed in sequential order)” (p. 3). Within these courses, many activities were laid out in an organized and standardized manner, suggesting that such learning must be accomplished in a certain way and linking learning to completing specific tasks. For example, one experiential manual (PPE1 Manual, 2020) stated,

> The PPE I manual consists of five sections, each containing specific tasks and assignments to be fulfilled by the student to help the student develop knowledge and skills in the key competency areas; and to enable the preceptor to assess the student’s level of proficiency and competency in each area. (p. iv)

It was noted that upper year experiential learning manuals were not as prescriptive in what students were expected to complete in a rotation, though some required activities remained.

Notably, several faculty members commented on the internal culture and history of the faculty members. Rose described approaching the curriculum or teaching in ways that she learned or was taught,

> It's hard to change the way you've learned. I was like that too, I wanted to cover everything, you know, I wanted everything covered. But as time goes on, I realized that's probably not the most efficient way, to provide students with, you know, all this knowledge because they don't remember it anyway.

While contemplating alternative ways to organize the curriculum and pedagogical practices, Diane commented on the potential issue of established beliefs and practices,

> I think there would be some big pushback on that from faculty and staff who've been involved in this a long time, from students who have very strong and very specific expectations, about how they receive their knowledge from faculty, and that it be as detailed as possible, as black and white as possible, and as comprehensive as can be.

Importantly Sam stepped into the mind of the researcher and recognized,

> The crowd you're researching have all been brought up by the same group of people. Like, I graduated from [the school], so I was trained by people at [the school]… And that's an interesting piece in and of itself, how do all of these people who came from the same source define things that might have never been defined for any of us.

Therefore, the discursive practices at the School were more likely to be homogenous because of the limited diversity of faculty members. Likewise, faculty understandings of the concept of efficiency and how it is taught to students could be more similar than different.

Pharmacy education, efficient or inefficient?

Education efficiency through reduced time for learning was evident in AFPC's (2017) conceptual framework. The framework acknowledged program changes, specifically the move to the entry-to-practice Doctor of Pharmacy from the Bachelor program, which served to reduce the need for students to obtain more practice after graduation. According to AFPC (2017), "Since 2010, changes in pharmacy curriculum have narrowed the capability gap at graduation, which has prompted several regulatory authorities to eliminate the need for graduates to obtain additional practice experience prior to registration/licensure" (p. 5). This message was reiterated by faculty member Daisy,

> One of our hopes was that the students would graduate without being required to do an internship post-graduation. However, the board still requires a post grad internship, in addition to the 44 weeks of practice experience…There must be some historical, I'm gonna say evidence, but I don't know that it'll be evidence, but it's probably historical, I think.

Within the school, the common practice of inviting instructors to teach in what were described as team-taught courses of the curriculum showcased unspoken links between culture and practice. There was debate on whether this was efficient or inefficient as external or internal instructors were slotted into courses for specific topics or content and responsible for the classes and assessments. Some faculty described this practice as historically driven, as Samantha explained,

> So that's been happening as long as I can remember. So ever since I've been with the school, and even before that, part of the reason I was involved in the school even before as a faculty member is because I would teach certain topics I was more specialized in, so providing that expertise.

Similarly, Rose said, “I think that's just kind of how it's always been, you know, like, based on clinical faculty and their particular practice area.” The historical rationale was also commented on by Pharm One while recognizing the financial pressure to stop this practice,

> I think we're getting better at that, I think there was a tendency to just again, historical, like we're getting people in, but just due to, the university sort of forcing us to critically look at our teaching loads, so we've been sort of pushed into taking on these topics that, when the money was freely flowing, we would just bring in a guest lecturer.

Most faculty also gave the expertise rationale, contributing to an underlying assumption that the expert would teach more effectively. This assumption was challenged by several faculty members, and Bill explained, “Well, there are benefits, especially if they are content experts. But the problem is that you get these people to come in, and then you find out, they're actually maybe not really teaching as much.” Or Sam commenting,

> I will say that I do see some value though in having someone who's considered novice in the area teach it because when they teach it, they teach it from the perspective of a learner…they're able to sometimes communicate the information in a way that's more at the novice learner level. Whereas with the expert, they often forget what it's like to be a novice learner. So sometimes I find our students, like it goes over their heads.

Caffeine also recognized a potential problem and remarked how instructors were often pulled to other courses because of this and therefore would not be able to give time for their own course. She said, “Because you're going to be, doing other things, teaching in other courses, participating in other activities, what have you, you may be required to have these additional people in the course to sort of help deliver the material.”

Another rationale was one of efficiency and effectiveness. Rose thought about the possible connection between efficient teaching and inviting lecturers,

> I think it really just relates to the expertise and experience. Now, having said that, I guess if someone is comfortable with that topic area, they have lots of experience, lots of expertise, examples to share from practice, that sort of thing, it may make them more efficient as a teacher in delivering that material and knowing how to best deliver that material that would be relevant to the student for their future practice.

Sun added to the muddling of efficiency and effective teaching, expressing conflicting considerations,

> I think it's related to efficiency or effectiveness, effective use of the resources that we have at hand…or in using resources ineffectively by not using our resources to their full capabilities and that's why we're having to bring in these outside people. And there's different thoughts on that. For example, is it more effective to bring someone in who's already an expert in that topic/area, rather than an internal person's time to perhaps have to spend a significant amount of time to truly understanding that same topic/area well enough to be able to teach it? So, I think sometimes it is more efficient to get an outside person based on the topic.

Similarly, Sam reflected on time requirements for preparing to teach,

> So it could be an argument for why course coordinators seek out an alternative instructor, just so that they don't have to spend all that time on learning the content themselves, updating the information, because the content expert, like they would have all that at their disposal. I mean, if I think about my own experiences, that has been a reason why I've recruited people in the past, if I'm being honest, it's just because it would take me a significant amount of time to prepare it because of my lack of clinical knowledge in that area.

That being said, she acknowledged that faculty often have to teach in areas they do not actively practise in, a sentiment echoed by Bill, "The thing is though, to be honest, because this is entry-to-practice, we should be able to teach anything in the curriculum, and I have taught quite a few things that are way outside my zone of comfort."

Many of the previously discussed contextual understandings of efficiency had parallels to thoughts on pharmacy education and educational practices. As previously highlighted, most faculty members thought that efficiency in pharmacy education was

valued. They described teaching students to be efficient practitioners and the need to ensure effective education within a constrained school time. The ensuing discussion in faculty interviews about how pharmacy education was efficient or inefficient led to participants thinking back to the definitions and examples they provided about efficient pharmacies, pharmacists, and teaching efficiency. They also reflected on their experiences at the school suggesting changes, improvements, and commentary on the nature of pharmacy school. A few faculty members thought it was odd that pharmacy education could be described as efficient, suggesting that for them, efficiency was not a conscious consideration when thinking about education. However, they were able to discuss efficiency in education once prompted. Other faculty members paused to think about the concept of efficiency in pharmacy education, and most started to discuss the organization of the curriculum focusing on content being taught with some mention of pedagogy.

Some faculty members described what efficiency in pharmacy education would look like. Diane thought that pharmacy education efficiency meant,

> that it accomplishes all its goals in as short a time period as is reasonable to do so… Because to me if it's efficient, then the goal is to also have it done in a shorter time period, or to have more put into that particular time period. So it probably doesn't have a lot of bells and whistles but it should have all of the required components covered off.

DW Read also commented on the time in school and how to teach within that time, thinking of efficiency as,

> providing the students with a good quality, and I'll explain what I mean by that, education, in a short amount of time. What efficiency means to me is kind of identifying exactly the best way to teach students a particular topic and focusing on their needs in order to meet them, ultimately, in the amount of time that we

> have, which is like the four years or say, a semester. So we kind of focus on, okay, well, this is what we have in our curriculum, how can we teach this efficiently?

Watercolour appreciated planning and organization as part of her personal life, but considered efficiency problematic in pharmacy education,

> I guess efficient means that we're taking a person who knows nothing about this and in five years or six years, we're very systematically, in a very orderly fashion, we've got it all set out for you. This is when you're going to do this course, and then this course and then we add in this course, and then you, you know, you have time in between to go out on your APPEs and start to apply the knowledge so that when we get to the end, we have this perfect pharmacist who has met all these competencies. And it's very streamlined, right? And there's no choices. It's very efficient. You can't go off on different areas. You can't decide, oh, "I want to be a [specialized practice] pharmacist", or at least not here anyway, and "I'm going to spend more time on that." It's like we're producing generalists and there's a very set, very structured, very rigid, very orderly, very exact course of study that you will follow.

Faculty often referred to past iterations of the pharmacy program and adding time to the program. For Bill, thinking back to the two previous bachelor's degree programs, there were problems with simply adding time,

> There were some modifications during the 2+3 program, which was a long time ago, because we had very limited time. So we tried to really prioritize subject areas. But then when we went into the new curriculum, the 1+4, we basically just copied over what was being done before but added in way more time for particular subjects.

Within the pharmacy curriculum, many faculty members spoke about having as much content as possible or at least having as much covered in the time available. But there was also a suggestion from DW Read to make time for therapeutics by offloading certain first- and second-year science courses to prerequisites for program entry,

> And I think we could do that if perhaps maybe some of the additional courses are done prior to starting pharmacy school. That could be one way to enhance

> efficiency, I think, and getting kind of more and being able to focus more so on the therapeutic topics.

From an efficiency and student course load perspective, Pharm One thought, “a year has been added to the program. So I don't know if we actually did get more efficient or we just added a year.” But for other faculty, the added time in the entry-to-practice PharmD compared to the previous bachelor’s program was important. Daisy thought, “in moving towards the PharmD, we wanted to graduate students who were practice ready. Who had enough time in the curriculum and in the experiential program to learn and practise along the lines of the expanded scopes of practice.” And Sam added, “I like that we have this extra time for experiential learning, I think, thinking back to my experiences, I would have really valued having six APPE rotations.”

Stemming from a definition of efficiency as managing time and resources from a student and faculty perspective, Bill did not think pharmacy education was efficient. She thought,

> It would mean that we use our resources effectively. So right now, we're not using our resources effectively. It's my perception and my perception alone, that some classes, I think, there are better ways that they could be taught and assessed… And then just the amount of material that we teach, I don't think is efficient, because it forces us to just teach this material as much as possible.

Pharm One also connected the excessive content with inefficiency,

> I think what happens here a lot is that we tend to ignore looking at efficiency, in terms of again, like amount of content, how many courses, and think that the more we give students the more effective they're going to be as a practitioner and as a student.

Similarly, Wynter spoke generally about the relevance of content,

> I think there is time that we spend on things that aren't relevant in our program. And I also think there's time that we spend on relevant things, that we're probably

> not doing efficiently. We may be doing it timely but I think if it was maybe done a different way, perhaps it would be more efficient, and we could probably get a better outcome with probably even shorter time if it was done a different way.

However, some faculty thought differently. DW Read stated that pharmacy education at the school was efficient through planning and based on the definition of achieving outcomes in constrained time. She said,

> I do believe we are. We get most of what the students need in their curriculum and we kind of take that time to formulate that process, like we map it out. So we make sure that students are getting important competencies at each step of the way, in order to meet that goal of five years.

Diane also commented on how pharmacy education was efficient because of the lack of student exploration given that the program had little flexibility. She mused,

> I go back and forth these days on pharmacy as we have it designed, do we even belong to the university or do we belong as a technical program? Because, to me, our pharmacy program is efficient at [the school], and I think they're all, because we're accredited, we're all held to a certain number of years and certain standards, I think we're all efficient to a certain degree. But at [the school], I guess not having electives doesn't make us any more efficient, cuz maybe some of the stuff we require is superfluous. Maybe that's the message there. But there's not a lot of time or space, for extra, for anything that might be, you know, I won't say, "wasting time" because it's not really a waste. But for things that aren't necessary. Everything in our program is considered, whether it be the truth or not, to be necessary. because it's all required. And it's all crammed into pretty much the smallest timeframe it could be. So I think that as pharmacy education is designed right now, it's efficient.

She subsequently added that there would be benefit to students if the program was less efficient and students could "learn how to think critically and broadly and have some more philosophical approaches to different things, instead of just learning the professional knowledge required to practice pharmacy."

For Samantha, planning and selecting content followed by linking them across the program was efficient and effective,

> So that makes things more efficient as we stream throughout the program. Another thing we did for the pharmacy practice was, we actually, especially when we developed the new PharmD program, we planned out well, what are the main skills that we want the students to achieve within particular courses and building on those throughout. So that's helped, I think a lot in terms of efficiency in terms of being able to be as an instructor focus on certain things and be more effective at teaching those and be more efficient in that regards, and getting those things done, because I can focus on particular aspects without having to worry about a lot more things, or other things.

However, the teaching aspect could be more efficient if some administrative aspects could be delegated, a resemblance to the delegation of dispensing tasks in pharmacy practice. She mentioned, "there's so many things that can be done to help support the learning and make things more efficient for us being able to teach without having to do a lot of these more technical, administrative type of roles." The idea of having additional supports to improve efficiency was also mentioned by Wynter, who thought the time spent was inefficient because of the teaching methods and suggested,

> if we, as instructors had some more time, support, guidance, instruction to us about how to teach things differently, then the time that we spend with the students can be more efficient. And it wouldn't be all this time lecturing and giving exams and then them potentially forgetting everything we talked about.

Daisy had a similar perspective, suggesting that pharmacy education was efficient through students achieving desired outcomes, but administrative challenges were present.

> Are we getting, are we meeting the requirements of the program, I guess? And are our students graduating to the national standards?... In terms of the program, the delivery of the program, for the most part, yes. I think, just in other areas we could gain some efficiencies. I think just in administration, for example.

However, efficient and effective education was not clear-cut for some faculty as Sam explained,

> The students have a more well-rounded education, I think they get lot more experiences that are simulated, but more like real life experiences. But in saying

> that, if I think about our students where they are when they graduate. I think they're better pharmacists, in some ways than we were when I went through. But then in other ways, I'm not sure that they are. So I don't know if we've achieved our outcomes that we were hoping to achieve by introducing new curriculum. So are we efficient? I don't know. Like, I mean, the curriculum is longer…

Jess also commented "I'd have to say I don't really know. I'd like to think that is" while focusing on efficiency as keeping abreast of changing practice and pharmaceutical knowledge and "deciding which aspects of all of that is important for the student to know before, when they enter practice." Sun tied in the effectiveness aspect of education, considering efficiency to be "Do we progress with a program in terms of content, and the students' abilities to obtain information and to truly learn in a way that is done in a timely way that is most effective for them as learners?" Trooper also thought that pharmacy education was efficient in the sense of training students to be good clinicians at a particular moment in time. However, she was more critical of whether that efficiency translated to students advancing the profession, which was also valued,

> Pharmacy efficiency, for me, it would mean that we've created lifelong learners. They know the current information when they graduate. And they know how to improve their knowledge as they go along. But then they also know how to act on that knowledge, to create structured programs, new innovation change within the practices, that allows them to adapt to new things… I think we all want students who graduate to be like, change leaders, change agents, whatever term you want to use. I don't know if we create that ability for them to be change leaders.

Overall, efficiency was an important part of pharmacy education to these faculty members and this sentiment was summarized by Caffeine's statement,

> I think that efficiency is definitely part of pharmacy education. Because, again, we really have to think about what we're teaching, how we're teaching it, we really do have to consider things that we might have to leave out because of time constraints. But again, thinking about ways that, if you don't have time in class, how can we efficiently structure it such that students will get that full experience,

> and utilizing these other tools and thinking outside the box sometimes to ensure all the important concepts are delivered.

Although faculty members expressed some issues with excessive content and student workload, there was continued pressure to give as much knowledge to students as possible. By equating the purpose of pharmacy education with students achieving educational outcomes and ensuring that this content was delivered in an organized fashion, faculty highlighted how pharmacy education was standardized and efficient.

Section two: Efficiently teaching efficiency: Evaluation

In the final section of this chapter, I evaluate the influence of the discursive practices in the School that encouraged and taught students how to be efficient pharmacists. In the spirit of educational connoisseurship and criticism, I provide judgment on the "unexpected or idiosyncratic but noteworthy phenomenon" (Uhrmacher et al., 2017, p. 51) of practices with the aim of improving education.

In the section on becoming an efficient pharmacist, students pointed out many ways that pharmacy school promotes speed. For example, John discussed tests as teaching "you to think on your feet", Tomato learning the "quickest way that I can find the best or most amount of information", or Peach having to do "two things at the same time". This mentality was promoted through timed activities and reinforcement of working and studying quickly, as students used processes such as the QuEST patient interview technique or learned the approaches to efficient documentation. Such educational practices reflected thoughts about pharmacy practice as faculty member Samantha suggested, completing work slower was "not helping them in the long run". Interestingly, many students and faculty did not notice that educational practices were

promoting efficiency. Instead, students were routinely given the rationales that there was limited time in practice and that pharmacy practice was busy. And although faculty recognized the business influences on pharmacy practice, which emphasized efficiency, they did not draw connections to how these were reflected in their educational practices. Thus, faculty accepted learning to be efficient as a necessary goal in pharmacy education, which influenced student beliefs of efficiency in school and practice. Faculty and students both subscribed to the efficiency-related objectives of AFPC and NAPRA without questioning. Furthermore, the objectives and organizations may be seen as a discursive practice in themselves as they seemed to endorse the belief that healthcare and patient care needed to be efficient.

In the section on pharmacy education as systematic and standardized, efficiency was further demonstrated in the structure and organization of curriculum under national guidance. For example, AFPC guidance documents stipulated "intended outcomes in a reliable, efficient and effective manner" while NAPRA guided development of "national competency assessment examinations". Such standardization results in a curriculum that focuses on measured achievement rather than individual student learning, such as through CCAPP's specification of "graduation rate" or "success rate" in national examinations as examples of programs meeting accreditation criteria. These benchmarks were followed by the School and unquestioningly incorporated into courses through curriculum mapping and intentional alignment. Shelly described this as "integration of knowledge across courses" and Samantha as "concurrent teaching" that improved the efficiency of learning. And in the culture of the School, Rose recognized "it's hard to change the way you've

learned", especially as Diane thought about faculty "who've been involved in this a long time" and Sam's consideration that faculty who have been "brought up by the same group of people". Thus, in this environment it would be challenging to change faculty expectations and practices. But the question of whether it would be worthwhile to change is not asked.

In the section questioning whether pharmacy education was efficient or inefficient, documents and faculty discussed the substantial historical basis for educational practices. For example, Daisy said experiential durations were "probably historical", Samantha described teaching as "happening as long as I can remember", Bill talked about doing "what was being done before", and Rose explained "that's just kind of how it's always been" particularly in reference to dividing teaching in courses and hiring external instructors. Some also considered differentiation of work and wanted additional support so that they could delegate administrative and technical aspects of their teaching. Regardless of the benefits and drawbacks expressed by faculty, such practices were efficient because it meant that faculty did not need to teach certain topics and prepare teaching materials. Several faculty members thought of pharmacy education efficiency as making the most of constrained time in the curriculum by ensuring students received as much content and experiences as possible during their time in school. DW Read thought about "the best way to teach…in the amount of time that we have" while Wynter considered "a better outcome with probably even shorter time". This was reflected in curriculum that pushed increasing amounts of content to students and a tendency for faculty to ensure that the content was both taught and assessed. Diane described this

efficiency as content “all crammed into pretty much the smallest timeframe it could be.” In all of these discursive practices of efficiency in pharmacy education, the hallmark was thoughtful and deliberate planning, coordination, and selection of what and when students would learn. Pharmacy education was not a place where student learning and exploration takes precedence and determines the duration and course of their studies.

In this chapter, my description, interpretation, and evaluation of efficiency in pharmacy education showed the contextual understandings of efficiency. Many participants understood efficiency in relation to pharmacy tasks and the time required to complete those tasks. Participants also described a complex relationship between efficient and effective, though many combined or equated the two terms. Notably, efficiency meant that students and pharmacists could do more and thoughts were linked to demands in pharmacy practice and pharmacy business. The perceived value of an efficient pharmacist justified and reinforced the need to teach students how to be efficient, which was accomplished through emphasizing speed and procedure in activities. As a result, most faculty accepted and did not question the systematic and standardized nature of pharmacy education or the many educational practices that promoted efficiency.

Chapter six: Discussion and conclusion: A critique of time and efficiency

Giroux (1981) argued, "analyses of the hidden curriculum gain some theoretical mileage only when they move from description to critique" (p. 286). Therefore, this final chapter discusses the findings from my case study through an encompassing evaluation—the third phase of Eisner's (1976/2005a) educational connoisseurship and criticism method. It critiques the pitfalls of time and efficiency in pharmacy education while relating back to neoliberal ideology and conceptions of knowledge and power.

Section one: The pitfalls of time

Time for school consumed the lives of most students such that many needed to step back and re-evaluate the demands placed by pharmacy-related activities in comparison to their lives outside of school. Students expected pharmacy education to not be easy and require a deep commitment—a situation many seemed to accept and internalize. The argument for the demand on time from both students and faculty was that there was a lot to learn in school, even though many participants pointed out that learning as a pharmacist is life-long. The rush to learn is pushed onto students and faculty. Consequently, students were tasked with learning and more importantly, showing, that they could balance their time in school as part of being in a professional program. Part of balancing time was incorporating part-time work and extracurricular activities, which again, were expected by the program, but not in explicit ways. For example, many students seemed to believe that part-time work was encouraged by their peers yet did not

see how the school promoted it through explicit activities such as job-shadowing or implicit teaching like comparing the world of the workplace with that in school. This is something that I am guilty of as well, through recruiting and employing students in my past practice and teaching through amplification of personal experience. A similar scenario plays out for extracurricular activities and recommended student involvement in the constant stream of pharmacy events. Together, they add another dimension to student time, and according to students and faculty, a practice spoken of through casual conversations in hallways but unwritten in the program.

Parallels between conceptions of a pharmacist's time with those of a student's time reflected the value of time. First, the message that pharmacists could and should do more in their practices seemed to resonate with students and faculty, paralleling the sentiment that students should do more. Yet faculty and students believed that pharmacists had a lack of time in their workplaces, which was a major barrier to doing what they wanted to do, again paralleling a student's lack of time. Interestingly, none of the faculty or students were concerned that perhaps there were too many responsibilities and work for the pharmacist in practice. Rather, students were taught and thought that pharmacists should do more and that a pharmacist's time was undervalued by monetary compensation. This concept was related to belief that people did not know the value of a pharmacist's time. Unfortunately, there was no mention that this is also a natural part of being a professional and having an exclusive body of knowledge. An outsider to any profession has little understanding of what that professional does. For example, the public could not describe, let alone quantify, the time of a nurse or a lawyer.

Perhaps the lack of time would be portrayed more positively if pharmacists dictated their own time, but this is not the case. The explicit message from some faculty was that students define their own future pharmacy practice. However, the hidden message from teaching and activities, especially those about wait times, was that the pharmacist's time depended on others' time and preferences whether that be patients, prescribers, or the managers and bosses. Thus, students implicitly learn that the pharmacist would regularly be subject to the scrutiny and observation by others, an inverse to what Foucault (1973) would call the medical gaze whereby the health professional exerts power over others (see also Jamie, 2014; Waring et al., 2016). Although a health professional should certainly place service to their patients first, the activities and scenarios given to students went beyond this simple idea. The power relationship between pharmacists and others was built upon and measured by time, which was reinforced in pharmacy education. In teaching and practice, the pharmacist's time was negotiated with other people's time and subsequently, time was often estimated, calculated, and delineated into hours and minutes in each class or activity.

The conceptions of time for students were most aptly characterized by busyness and reflected how students were encouraged and expected to be busy. Notably, it contributed to the discrepancy between school and what participants described as the realities of practice in the workplace, especially as the school attempted to mimic practice within the context of the constraints of time in practice. It resembled Apple's (2012) discussion of a correspondence theory where skills and traits determined by the economy are so powerfully situated that they get pushed into schools. Despite the value students

and faculty place on these activities for learning and socialization, they may become problematic if students are unwilling or unable to participate. The consequences of non-engagement are somewhat hidden from students. A few hinted at the lack of awards and scholarships or the lack of networking that helps students move ahead financially and socially in a competitive world. In pharmacy education, the busyness of the workplace is paralleled by the busyness of school life with neoliberal ideology expecting and requiring it. In other words, the economic engine in neoliberal thought requires that its components be busy and not waste time in the pursuit of growth and profit. Students fit into this machine through learning the importance of being busy.

Consequently, students were promised that by controlling time, they could mitigate the problem of the lack of time. Students learned that it is a personal and professional responsibility to manage time, therefore taking it upon themselves to deal with the demands in and out of school that are placed onto them. The sentiment from faculty was that time management was a life skill that students need for future work. While this was taught explicitly by some faculty, it was implicit by others, who designed activities that required students to complete daily work in a timely manner. The link to practice and to pharmacy businesses was apparent as faculty acknowledged experiential education as a driver for learning time management. Once again though, this creates consequences for students who may not be able to keep up with everything, and a few participants had to decide how to use their time in and out of school. First they had to decide what to focus on in school based on grades and perceived value of study, and then also debate the value of school compared to part-time work or extracurricular activities.

The solution of controlling time is amplified by explicitly requiring students to demonstrate managing time through professionalism in educational outcomes. As mentioned in the findings, students had to assess both their own and their peers' time management skills. This was an example of judgment, observation, and control in pharmacy education, which was similar to Foucault's (1977) description of discipline and how it becomes internalized, such that "he who is subjected to a field of visibility, and who knows it, assumes responsibility for the constraints of power; he makes them play spontaneously upon himself" (p. 202). In other words, the students internalize this and exhibit the behaviours expected of them and my study showed that the students were rarely conscious of this. It was further reinforced in goal setting and creation of learning activities and objectives by the students themselves, where time spent is seen as a measure of learning and less time spent is a measure of successful learning. Deviance is recorded in the form of grades or in a potentially extreme case, failure of a course or the program.

The same promise of creating more time through controlling time was adopted by faculty. In particular, they controlled school time through timed activities and a highly structured student time. While faculty and students commented on the importance of patient safety for a pharmacist's work, the message sent was that there was even more time in school than students would have in practice, again, encouraging students to work faster; thus, creating questions about the hierarchy of patient safety and time. Many timed activities were subdivided into smaller and smaller chunks of time for different aspects, such that students who did not complete tasks or activities within the allotted time would

receive lower grades. This was most evident in the use of OSCEs, which often did not allow students to exceed the allotted time. The chance for students to explore and learn through on their own time was lessened in my case study as instructors moved on or students were simply told the correct answers, reminiscent of a standardized education and Greene's (1995) criticism of a loss of creativity and student initiative in schools. Students and faculty acknowledged the resemblance and purpose of OSCEs in school to mimic those on the licensing exams. But with none of the participants knowing why the licensing exam imposed the specific seven-minute time limit, it just became an accepted practice within the school without question. Two important consequences arise. First, Foucault's (1977) perspective on creation through disciplinary time applies, as this practice allowed for the quantification of time that students spend with patients and endorsed a standard set of patient-care activities to fit within that time. Second, it highlights the creation of a body of knowledge defined through timed activities and their limits for pharmacists because educators rely on this body of knowledge to teach students what it means to practise. These activities often resembled and reinforced the technical and procedural knowledge, as students and faculty described the completion of tasks and ticking of boxes on an OSCE analytical checklist. This episteme-knowledge, "encompasses understandings of cause—effect events, logical implications, procedural knowledge, everyday know-how, and practiced skills" as opposed to a deep or gnosis-knowledge of pharmacy practice (B. Davis et al., 2015, p. 16). Some faculty discounted the role of OSCEs, instead pointing to the experiential components in the curriculum. However, the OSCE activities started in first year and continued all the way to the

licensing exam, and influenced how students approached experiential education. This hidden aspect, or discursive practice, was evident by how students connected timed activities to the pharmacist's time in practice, an acceptance that practice is constrained by time rather than questioning the constraint itself. Critically, this juxtaposes the core tenets of being a pharmacist as a care provider as a few participants did say that spending more time with patients would be beneficial.

The other way to control time was through the formal curriculum. While a timetable in university is used to organize student classes and schedules, the program strictly decided this for students. It was imposed through separation of students by entrance and graduating years leading to time being used as a marker for determining student achievement. This was further reflected in curriculum and pedagogy as the number of hours assigned to courses and the sequential structuring of almost all courses through prerequisites and corequisites. Importantly, the allotted time was arbitrary except when following accreditation requirements such as minimum experiential education hours. Time demands were pushed onto students similar to how Foucault (1977) remarked that apprentices in historical guilds were not permitted to engage in the idealized role without some form of payment. In this case, it was a payment of time equated as providing service, which was seen through experiential education and in the part-time work typical of most pharmacy students. The control of student time was most pronounced in experiential education with very specific stipulation of days and hours, and penalties for nonadherence to time, such as absences.

Within these courses, time was further broken down into individual activities and topics hierarchically. For example, three hours may be assigned for a particular pharmacotherapy topic after faculty negotiation on other topics and the relative weight of it deemed by the program, regardless of student progression. Therefore, for a program that is guided by students achieving educational outcomes, there appeared to be an emphasis on time as the measure of these outcomes or route to achieve them, rather than the outcomes themselves. This highly structured time is an example of normalization and homogeneity in pharmacy education. There was the expectation that students all achieve the outcomes stipulated by regulatory bodies and by following detailed and measurable criteria for accreditation and licensing. But while students succumb to normalization at the level of educational outcomes, at the same time, they could be differentiated through grades and participation. As mentioned before, students had to decide how much time to spend on school activities, which resulted in what Foucault (1977) described as, "individual actions to a whole that is at once a field of comparison, a space of differentiation and the principle of a rule to be followed" (p. 182). That is, within the rule of normalization, there is differentiation in abilities and creation of hierarchies, which is defined through external judgment and observation. This is problematic because while students are compared with one another, the overarching normal and homogeneity remain unquestioned. Student time was frequently and intensively evaluated in courses, which follows Foucault's (1977) argument that a consequence of observation and normalization is examination. Subsequently, Foucault explained that the purpose of examinations was three-fold. First, they were intended to determine if acceptable performance was attained.

Then they ensured that all examinees obtained the same skills. And lastly, they could be used to differentiate abilities of the examinees. In my case study, they reinforced the hierarchical power relations of the student and faculty, dictated what was knowledge, and ensured that students obtained that knowledge.

Section two: The pitfalls of efficiency

Foucault (1972) reminded us that it is the relations between objects and statements that show the discursive formations. In the document analysis, the school documents are not known by the national regulatory bodies, yet the school and national regulatory documents (e.g., AFPC, NAPRA) are closely intertwined and aligned. There were examples that the school documents, particularly the experiential education ones analyzed, followed the national ones in requirements and language. The reliance of the school on external standards such as AFPC educational outcomes or CCAPP accreditation standards tells us that such documents hold power that is subsequently placed onto faculty and students in terms of how they define what is educationally appropriate for the profession. Apple (2019) wrote that "institutions of cultural preservation and distribution like schools create and recreate forms of consciousness that enable social control to be maintained without the necessity of dominant groups having to resort to overt mechanisms of domination" (p. 3). The school's acquiescence to standards or even more so, the deference to them is concerning, as it makes it easy to have a cookie-cutter curriculum—one with limited thought and input from the school—to achieve the standardization desired by other organizations.

Currently, pharmacy education in Canada is operated mostly by pharmacists for pharmacists. It is built on the legal concept of self-regulation for healthcare professionals and the liberties that are afforded these professionals in the public sphere. In pharmacy education, institutions have developed a system of control where outcomes, standards, and accreditation serve two purposes. One is the accountability of the profession to the public. While important because the health and wellbeing of those who are cared for by health professionals is critical, enforcing such mandates has led to widespread control of the educational system, one that educators seemed to serve. Knowledge that is deemed important from these organizations is related to what is taught and assessed in pharmacy education at the school level. The organizations are visible but their power is administered onto students without being directly involved in day to day teaching and learning. As Apple (2019) asserted,

> Through the definition, incorporation, and selection of what is considered legitimate or "real" knowledge, through positing a fake consensus on what are appropriate facts, skills, hopes, and fears (and the way we all should evaluate them), the economic and cultural apparatus are dialectically linked. (p. 161)

The way in which timed activities were structured encouraged students to take on as much as they could, and students thought they were rewarded with grades for doing so. Faculty members were thinking about how to manage time for all the tasks and approaching efficiency from the perspective of achieving outcomes. Despite some faculty acknowledgement of the excessive amount of content and the high demands on students, there were few instances when doing less was encouraged. It was not problematized during the interviews in a way that action would be taken to address it. Perhaps faculty feel powerless to do so in a program that, as seen in my analysis, was dictated by internal

and external political forces. In discussion of pharmacy education being efficient or inefficient, similar debates around content came to light. For many, educational efficiency was about giving students as much content or experience as possible during their time in school. It seemed that the way to do so was to organize the curriculum around pharmacotherapy. Thus, the amount and depth of knowledge about certain topics or disease states became the measure of student learning. However, there was no questioning of the idea that curriculum and student learning should or should not be structured to revolve around pharmacotherapy. The orderly coordination was an efficiency, which Foucault (1977) would call a "seriation of successive activities" (p. 160), a way of internalizing the outcomes and normalizing education for observation, examination, and ensuring student homogeneity.

Efficiency in practice was directly related to time because it was promised as a way to save time. In this way, efficiency was another solution to the problem of a lack of time. External organizations included statements on efficiency, which were subsequently adopted by the program for teaching communication, collaboration, dispensary work, and patient safety. The consequences of inefficiency as expressed by interview participants were work-related and characterized by frustration of patients, staff, and the pharmacist themselves. The ultimate goal of efficiency was the ability to do more, whether that meant more prescriptions or other services. The discourse of patient benefit was the common explanation for why efficiency matters. There was a common thought that other hypothetical patients waiting for service would be affected by the pharmacist's inefficiency, rather than how efficiency may affect the care given to the immediate

patient. However, the economic forces that drive efficiency are mostly hidden from view. This was especially the case when participants discussed, and students were taught, that delegation of work to other pharmacy staff was crucial for efficiency. The explicit teaching and belief placed on the merits of delegation of pharmacy tasks is directly connected with economic forces where "in order for corporate accumulation to proceed, planning must be separated from execution, mental labor separated from manual labor, and this separation needs to be institutionalized in a systematic and formal manner" (Apple, 2012, p. 135). Therefore, efficiency must be taught and reinforced if faculty and organizations want to expand a pharmacist's work and reap the economic benefits. And the clearest example was how the pharmacy technician became the model for separation of mental and manual labour in the minds of students and faculty, with dispensary work seen as conflicting with future pharmacist roles and professional advancement. This understanding and expectation of efficiency lent itself to be measured, in this case, through the achievement of tasks and goals as many participants discussed. Efficiency was a system and personal trait that participants could quantify, which subsequently allowed it to be taught and assessed.

While there were different thoughts about the relationship between efficient and effective, it was interesting that many participants had difficulty explaining the similarities and differences. The close relationship in some participants' thoughts highlight how efficiency was normalized and came to define what faculty taught and students learned. Efficiency was an indispensable aspect of pharmacy education, often equated with or required for effectiveness. In neoliberal ideology, efficiency is

normalized—an expectation and a response to problems. Importantly, several faculty members deferred the effectiveness of pharmacy education to external outcomes and examinations, rather than a confidence that their own assessments or definitions were sufficient. Thus, the power of external educational standards to dictate pharmacy education was reinforced by the educators and the planning and structured approach to courses and curriculum was an efficient way to deliver the curriculum to students.

In observations and document analysis, students were often encouraged to be more efficient in their work. Students were told that there was limited time and instructors reiterated that working with deadlines and practising timeliness and efficiency would be beneficial. The ideas of pharmacists multi-tasking, having multiple responsibilities and competing demands, and the need to do everything came through repeatedly in these conversations. Students learned how to be efficient pharmacists and efficiency was reinforced as critical for success. Notably, many faculty and students could not recount specifics of teaching efficiency despite many procedures, shortcuts, and systematic processes being taught as described in the course observations. This emphasizes the role of discursive practices that need to be acknowledged. Process in itself can be beneficial because it ensures that essential elements of patient care, such as taking an accurate and complete medical history, are not missed. However, process without rationale or detail is problematic because it is easy for the pharmacist to become robotic and uncaring, as one faculty member explained. For example, students did not mention the QuEST process, which was promoted in the school for minor ailment counselling. Historically, it was born out of the American Pharmacists Association for

assessing acuity but also for providing quick service in over-the-counter medication aisles of a pharmacy (Buring et al., 2007; Krinsky & Schneider, 2013). As Ferreri (2004) wrote about being quick, "This assessment should not be an exhaustive history; we do not have time for that in community practice. Establishing a 1- to 2- minute limit is helpful" (para. 6). This pedagogy promoting efficiency was accepted by participants without significant questioning in activities and experiential education, and was a clear example of another discursive practice in pharmacy education.

The explicit standardized curriculum was encouraged through shared competencies and outcomes, and enforced by external organizations through evaluation of the school and its students. The school relies on accreditation so their graduates can write national licensing exams and register as pharmacists in the future, so it is necessary to comply with requirements. To paraphrase Eisner (1976/2005a), the examinations become the goals of education. This was evident through the curriculum mapping process in the school to connect and align course learning objectives and activities, as observed in course outlines, to both AFPC and NAPRA competencies. Although one could argue that having different organizations jostling to direct pharmacy education would be inefficient, these organizations are all connected. The intentional alignment among the four organizations, AFPC, NAPRA, CCAPP, and PEBC, showed how they systematically define what pharmacists should know and therefore what pharmacy schools should teach. They create and help sustain a push for educational homogeneity across Canada. And this "yearning for prediction through control was, of course, reflected in the desire to make schools more efficient and presumably more effective" (Eisner, 1976/2005a, p. 37). That

is, the curriculum makes assumptions that students learn and become effective pharmacists through this efficient process. However, many participants did not discern that pharmacy education was efficient through organization and standardization. In contrast, some participants claimed that pharmacy education was not efficient because it was not streamlined enough for the amount of content it had.

Eisner (1977/2005b) acknowledged that "Many teachers are confronted daily with prescriptions and demands from individuals outside the teaching profession—demands that are intended to improve the quality of education within the schools" (p. 52). Therefore, how faculty adjust or respond to demands is crucial. The culture of pharmacy tends to be one that avoids conflict or dissonance, not in the sense of disagreement, but in the sense of differing thoughts and practices particularly in the effort to develop and use consensus guides in pharmacy education (e.g., Aly et al., 2021; Nelson et al., 2021; Olsen et al., 2021). In my study, faculty often described teaching in ways that they were taught and the established beliefs and practices of the system. Apple (2019) argued that conflict as inherently negative was an ideological assumption leading to institutions, in an effort to control conflict, striving to eliminate it. This was enacted in the program through emphasis on standardization and an agreement on what should be taught and when; for example, the process of streaming content across different courses. Or broadly, another example would be AFPC's argument to switch to a competency-based approach to evaluating students in the 2017 educational outcomes update. These strategies served to eliminate conflict and differences in programs and ultimately, students.

Section three: Concluding thoughts from an educator

Apple (2012) encouraged critical education researchers to search for resistance to the hidden curriculum and nonconformity to educational structures and practices. Despite searching for opposition to the pitfalls of time and efficiency, I found almost no resistance from participants in my study. Perhaps this was not surprising given the pervasiveness of the discursive practices surrounding time and efficiency in pharmacy education. Throughout the student's journey in pharmacy school, whether it was class, practice labs, or experiential learning, efficiency was taught, assessed, and encouraged by faculty and the documents that guide curriculum. Fortunately, the evaluation step of connoisseurship and criticism permitted thinking about the consequences of these problems. A standardized pharmacy education has students as docile recipients of knowledge while unconsciously reproducing a hidden curriculum driven by the workplace. It deliberately predicts and controls, while efficiently and successfully achieves the end goal of students passing licensing exams to join the pharmacy workforce. National educational outcomes place care provider at the "core of the discipline of pharmacy" (Association of Faculties of Pharmacy of Canada, 2017, p. 8) but an educational system that revolves around content knowledge, efficiency, and a neoliberal agenda easily misses the *caring* piece. Students focus on doing more instead of doing better and engage in practice defined by time instead of by patients.

In addition, the standardization and homogeneity of education prevents students from progressing at their own pace and exploring different avenues of pharmacy. As B. Davis (2015) and Greene (1995) would argue, students would be unable to engage with

learning in a learner-centred way. In other words, standardized education would limit creativity and the student's own construction of knowledge. Students could not take the time to learn and were not given the choice of slowing down. In addition, the emphasis on pharmacotherapy content as the focus of pharmacy education and the speed at which it is expected to be taught and learned limits students from attaining the deep and theoretical gnosis-knowledge of the profession. Modern pharmacy education was built on a history of technical education and knowledge. In many ways, it continues that tradition. Diane was the only faculty member to bring to attention the crux of my research and the connection between efficiency and the purpose of pharmacy education, suggesting

> university doesn't always reflect that like it used to, like even other programs at the university now that aren't professional programs don't have that same freedom to expand your mind and your knowledge and follow your interests, as they perhaps used to in a more classical education, when the times were a bit less occupation focused at the level of university.

Last, there was lack of thought from students and faculty on who benefits from the arrangement of education in an efficient manner; that is, who benefits from pharmacists doing more. Time constraints and the management of time were placed on the individuals themselves, and there was a feeling from some participants about falling behind or not being able to compete without playing the efficiency game. Even though faculty claimed self or professional satisfaction and students accepted the idea that doing more was good, the unspoken economic benefit is in the pharmacist's workplace and ultimately the business environment where many pharmacists are employed. The economic forces surreptitiously translate into the education system and the teaching of student pharmacists to be efficient.

Merriam and Tisdell (2015) wrote that critical educational research "queries the context in which learning takes place, including the larger systems of society, the culture, and institutions that shape educational practice, and the structural and historical conditions framing practice" (p. 61). While my study was on time and efficiency in pharmacy education, thoughts and beliefs were inevitably tied to pharmacist time and efficiency in the workplace. Therefore, it was possible to draw parallels between efficient work and efficient education, a hallmark of neoliberalism. I contend that if such a link was less prominent, students and faculty would be less prone to claim disconnection between pharmacy education and work. Too, if the link was less important to schools, even if such a disconnection existed, it would matter less to students and faculty.

As opposed to Foucault's critiques, Eisner's (1976/2005a) educational connoisseurship and criticism also encourages the critic to offer some advice or solution to the evaluation. This is difficult from a personal perspective as an educator within the system as Apple (2019) remarked, "For while a person engages in serious critical analysis, he or she still may have an ethical obligation to make life more livable, more poetic and meaningful, for the students who live in the institutions" (p. 21). The structures revealed and challenged are mostly external entities that hold substantial power on how pharmacy education is operationalized in the country. However, I think that awareness and small adjustments in pedagogy can lead to incremental and sustained changes. There are better promises to the pitfalls of time and efficiency. It is with hope that through dissemination of this research, educators start to recognize the discursive practices forming neoliberal pharmacy education in their worlds and begin to critique and

reject them. Then perhaps we can take individual action and responsibility to consciously refocus pharmacy education away from neoliberal notions of time and efficiency. However, in my case study, it was clear that time was the constraint, effective was the intention, and efficiency was the solution. This reality was internalized by students and faculty, reinforced by a standardized education, and reproduced by the hidden curriculum.

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Appendices

Appendix A: Ethics approval

MEMORIAL UNIVERSITY

Interdisciplinary Committee on Ethics in Human Research (ICEHR)

St. John's, NL Canada A1C 5S7
Tel: 709 864-2561 icehr@mun.ca
www.mun.ca/research/ethics/humans/icehr

ICEHR Number:	**20210704-PH**
Approval Period:	October 8, 2020 – October 31, 2021
Funding Source:	
Responsible Faculty:	Dr. Beverly FitzPatrick School of Pharmacy
Title of Project:	*Time and efficiency in pharmacy education*
Amendment #:	***01***

April 9, 2021

Mr. Chun Chong
School of Pharmacy
Memorial University of Newfoundland

Dear Mr. Chong:

The Interdisciplinary Committee on Ethics in Human Research (ICEHR) has reviewed the proposed revisions for the above referenced project, as outlined in your amendment request dated March 30, 2021, and is pleased to give approval to the revised inclusion criteria and recruitment document, as described in your request, provided all other previously approved protocols are followed.

If you need to make any other changes during the conduct of the research that may affect ethical relations with human participants, please submit an amendment request, with a description of these changes, via your Researcher Portal account for the Committee's consideration.

Your ethics clearance for this project expires October 31, 2021, before which time you must submit an annual update to ICEHR. If you plan to continue the project, you need to request renewal of your ethics clearance, and include a brief summary on the progress of your research. When the project no longer requires contact with human participants, is completed and/or terminated, you need to provide an annual update with a brief final summary, and your file will be closed.

Annual updates and amendment requests can be submitted from your Researcher Portal account by clicking the *Applications: Post-Review* link on your Portal homepage.

The Committee would like to thank you for the update on your proposal and we wish you well with your research.

Yours sincerely,

Kelly Blidook, Ph.D.
Vice-Chair, Interdisciplinary Committee on Ethics in Human Research

KB/bc

cc: Supervisor – Dr. Beverly FitzPatrick, School of Pharmacy

Appendix B: Observation guide

Date:	Start time:	End time:
Course:	Number of people:	
Observation elements	**Descriptions**	**Field Notes**
Setting (e.g. location, live, recorded)		
Direct examples of time		
Direct examples of efficiency		
Direct examples of time and efficiency collectively		
Content and concepts emphasized		
Time-based activities		
Rationales for activities		
Other		

Appendix C: Interview prompts

For faculty

- How is time important in pharmacy practice?
- What kind of messages do you think students are getting about time?
- How do you decide how much time goes into your activities?
- What does the term efficiency mean to you? What does it mean to be efficient as a pharmacist?
- How are time and efficiency related?
    - In pharmacy practice?
    - In pharmacy education?
- From your perspective on efficiency, how is pharmacy education is efficient or inefficient?
- Even if you do not explicitly talk about time and efficiency with your students, if you take a moment and reflect, are there moments or strategies or activities in your teaching practices that might affect students in terms of time and efficiency? Please talk about this in a general manner.

For students

- What role does time play in your life as a pharmacy student?
- Describe some of the time-based activities that you do as a pharmacy student, both in class and out of class.
- What does it mean to be efficient as a pharmacy student?
- In your thoughts, what does it mean to be efficient as a pharmacist?
    - On what are your thoughts based—pharmacy classes, work experience, any other experiences?
- Describe someone, perhaps a role model in your experience who you think is efficient.
    - What does this person do that makes you think the person is efficient?
    - How does this person act that makes you think the person is efficient?
- How is time an advantage for you in your education?
    - How is time a disadvantage?