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Preface

The current COVID-19 pandemic has changed so much of our daily lives in short order. Boyer offers her thoughts in an opinion editorial regarding the relationship of this situation and education stating that "there is the opportunity as a community to engage in serious dialogue about what this situation means for learners who now must be agentic, facilitators of knowledge, and institutions of learning (at all levels)" (p. vi). My regret is that it would take a pandemic to catalyze such a dialogue; regardless, I hope that it will occur and do so ubiquitously.

In the first journal article, Porter, Rathert, and Lawong used a qualitative approach to investigate whether or not former doctoral students'—completers (n = 15) and noncompleters (n = 15)—experiences in their respective programs aligned with Knowles' 1975 5-step model of self-directed learning. Not only was there a greater alignment but also a higher completion rate associated with a program that incorporated the Knowles' principles thus suggesting that doctoral programs should consider the use of self-directed learning principles.

Next, Piotrowski quantitatively studied the relationship between self-directed learning readiness and resilience (subscales) for healthcare middle managers (n = 68). Her findings reveal statistically significant relationships and suggest self-directed learning as relevant to managerial competence.

Using an analysis of the literature, Artman, Danner, and Crow compare conventional and teacher-directed professional development (TDPD) practices in which the latter is conceptualized as an application of self-directed learning. They asserted, "the literature points to the success of TDPD because it is flexible, participatory, empowering, motivating, and an aid to creating a sense of teacher community" (p. 39).

In the final article, Linkous employed the method of fiction research to study the novel *Fahrenheit 451* in order to show the alignment between the text and notions of self-directed learning. Linkous used the works of Hiemstra and Brockett as well as Merriam for her analysis with numerous alignments revealed thereby supporting the use of fiction to teach self-directed learning as a promising avenue of educational practice.

As always, I thank the authors for sharing their thoughts and research with our readership.

Michael K. Ponton, Editor

Opinion Editorial

CAPITALIZING ON REQUISITE SEISMIC SHIFTS IN EDUCATION: CULTIVATING THE EMPOWERMENT OF THE LEARNER*

Naomi R. Boyer

Imagine . . . a world being swept by a pandemic of unprecedented proportions. The surge and contagion of the illness force nations and local governments to levy isolation and shut down nonessential business and activities. Citizens urged to keep to their homes and operate via technology as a connection to society. A reality where schools close for an indefinite period of time. Not just "one" school, not just schools in a particular region, but nationally and globally, a coordinated physical shut down is carried out of primary, secondary, and postsecondary educational institutions. No students on the majority of campuses anywhere. Teachers and learners are all relegated to remote learning with most institutions attempting to deliver instruction via both synchronous and asynchronous virtual technologies. No bells, no schedules, no mandated and proctored assessments, nor credit/clock hour requirements to attend to. How would parents and caregivers manage? How would teachers and professors respond? How would students continue to learn? How does the unemployed workforce retool for what comes next?

Oh, wait this is our current reality. Catalysts that we never could conceive of have now entered the landscape. Hundreds of thousands of students and faculty have entered the online space (Lederman, 2020) in a "black swan" inflection point that is "not only enormously disruptive but also paradigm changing" (Blumenstyk, 2020, para. 4). While much could be written as to whether the quality is good and the processes will support widespread student success, the point still remains that many K-12 and higher education institutions that insisted that their model was the *right and only* model for directing learners has fundamentally and permanently shifted. That's not to say that the tilted axis under us will not right itself. I am hopeful that such a resilient populace will rebound after the profound effects of the deadly COVID-19 epidemic has passed; however, it may be very difficult to put the genie back in the bottle and perhaps this pestilent agent will give way to positive learning outcomes.

The learning has just shifted globally from an industrialized transmission of knowledge to the empowerment of the individual learner. In a society that has cultivated a hierarchical model of teaching where the student listens, follows instructions, and waits to receive information, learners who are *compliant* are successful. Success in this environment begets another generation of learners that complete assignments as they are told, demonstrate fleeting "knowing" through the regurgitation of facts on exams, which is propagated by those who too were successful in this model. But now what? Individuals might be in their homes waiting to be told what to do next, but I would assert that this is not likely. Many are charting a course as agents of their own learning whether they are parents guiding children or

adults establishing new pathways. Could this be the impetus toward the rising of the learner? Is this finally the time to value, support, encourage, and structure the individual, personalized, self-directed learning options as part of and not segmented from formalized academic processes?

As faculty and teachers transition from the comfort of their physical pulpits, they virtually continue to play critical roles. They are as important to learner self-direction as our physical distancing is to reducing the spread of COVID-19. Lifelines and resources need to be incorporated into learners' daily routines and plans. Focusing on personalized connections can be more important than content delivery in supporting the success of students (Rubin, 2020). Teachers are not, however, able to operate under traditional classroom management and other learner control mechanisms to dictate, require, and assume responsibility for learner outcomes. "Learning at home cannot be standardized" (Childress, 2020, para. 8) and the "consensus advice" (para. 7) appears to be to integrate a small bit of formal with experiential activities.

The institutions, teachers/faculty/trainers, learners, and community are all attempting to find ways from their distinct vantage point to limit wasted time and capitalize on technology opportunities to provide a sense of purpose, productivity, and future workforce readiness. "Hopefully, these phases of trouble shooting can provide universities, professors and students the opportunity to practice adaptability, patience and resilience" (Iwai, 2020, para. 15). There are more questions than answers at this point that shift the liability for learner success from the school or teacher to the learner and society. Why society? There is a social element to this musing that could provide an opportunity to mitigate the digital divide and high-speed Internet access.

I would be remiss to not address the equity of the current academic virtual transition and physical shutdown. Learning for all. Regardless of age, economic status, community internet access, technology availability, race/ethnicity, gender, or any other demographic variable, *all* are faced with finding their learning way through the next few months. Larry Brilliant noted in an interview with Levy (2020):

> This is a really unprecedented and difficult time that will test us. When we do get through it, maybe like the Second World War, it will cause us to reexamine what has caused the fractional division we have in this country. The virus is an equal opportunity infector. And it's probably the way we would be better if we saw ourselves that way, which is much more alike than different. (para. 38)

Let me underscore: "This virus is an equal opportunity infector" (Levy, 2020, para. 38). The responsive actions should recognize and provide for the lacking infrastructure that is required to allow all, despite the variables noted above, to have some control over their learning future. Broadband, technology access, virtual mentors, and other very personalized services will be needed. It is no longer enough to send those in lower income or rural conditions to libraries, community centers, or other locations where people would have normally congregated. Such physical congregation will not be possible for an indefinite period of time. The target audience

that needs additional service and unique solutions is not young students nor recently employed adults; rather, it is both of these and every learner along the continuum—*all*.

Beyond the reporting, political posturing, and hand wringing in this very serious situation, there is the opportunity as a community to engage in serious dialogue about what this situation means for learners who now must be agentic, facilitators of knowledge, and institutions of learning (at all levels). Be certain, it is not online learning that will act as the stimulant in this situation. Online learning had been alive and well long before; rather, it is the whole alteration of previously held assumptions, systems, and personal identities. Terra firma has fallen away and it will take all of our efforts to redesign, rebuild and deliver new models. Ask the questions, rethink the unthinkable, shed the previously held assumptions of what "school" looks like and let's rebuild the learning capital that will be required to bring us to the future. This is not science fiction or a what-if tabletop exercise. This is now the world we live in, so let's craft the new reality together.

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**Editor's Note.* This opinion editorial was posted on March 25, 2020, as a blog entry on the International Society for Self-Directed Learning's website (www.sdlglobal.com).

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CONTENTS

SELF-DIRECTED LEARNING: A QUALITATIVE STUDY OF DOCTORAL STUDENT EXPERIENCES

Tracy H. Porter, Cheryl Rathert, and Diane A. Lawong

Doctoral program noncompletion rates have been an area of concern within higher education for many years with overall completion rates of less than 50%. Some scholars have speculated it might be time to reevaluate the content, structure, and process used in doctoral programs in order to examine what adjustments might be made for improvement. Self-directed learning (SDL) can be considered in instructional approaches that seek to build a supportive learning environment beyond the more traditional doctoral structure. The present study utilized semistructured interviews with former doctoral students to investigate their experiences based on Knowles' 5-step SDL model. Findings demonstrated facets that are in line with an SDL-considered approach that doctoral program directors might incorporate to improve graduation rates.

Keywords: doctoral education, self-directed learning, higher education, learning environment

U.S. doctoral degrees are highly prized throughout the world, and the approaches used within established programs often serve as templates for universities with fledgling programs (Nerad, 2004). A university's reputation is often closely tied to the reputation of its doctoral faculty, the graduates, and the research produced by these individuals (Elgar & Klein, 2004). Universities take great pride in the quality and rigor of their doctoral programs and often use long-established traditions to train their students (Elgar & Klein, 2004) that vary in effectiveness. Over the past few decades, many scholars of higher education instruction have criticized the way in which long-standing doctoral programs have functioned and have begun to challenge the content, structure, and processes currently utilized to prepare future scholars (Bista & Cox, 2014; Van de Ven, Shann, & Sridhar, 2015). Fewer than 75% of the students entering a doctoral program in the United States will graduate (Council of Graduate Schools, 2018). Doctoral programs with low completion rates are more often the norm than the exception and, oddly enough, often touted as a point of pride by program faculty (Elgar & Klein, 2004). For some academics, attrition rates are synonymous with a challenging, high quality, rigorous doctoral program.

The aim of the present study was to listen to stories of former doctoral students to better understand how their experiences may be related to the learning environments

in their programs. To do so, we conducted semistructured, in-depth interviews using a guided interview technique (Kim, 2011) with 30 former doctoral students from a large university in the U.S. Midwest. The participants were recruited from two programs one of which self-professed as having a self-directed learning (SDL) approach (SDL program) and one that self-professed as having a traditional approach (non-SDL program).

Research on low graduation rates has been piecemeal to date (Council of Graduate Schools, 2018; Van de Ven et al., 2015) and has identified a number of variables such as student personality factors (Abedi & Benkin, 1987), motivational factors (Baird, 1991; Bista & Cox, 2014), feelings of isolation (Evangelauf, 1989), family demands (Filteau, 1992), age (Johnson-Motoyama, Petr, & Mitchell, 2014), prior qualifications (Latona & Browne, 2001), financial circumstances (Whittle, 1994), quality of student cohort relationships (Latona & Browne, 2001), or taking time out away from the program (Noble, 1994). As one scholar noted, "it's always a constellation of reasons why doctoral students do not graduate" (Lovitts, 2001, p. 24). Certainly all universities strive to assist students toward graduation through a variety of initiatives, but the results of these initiatives have been mixed (Latona & Browne, 2001; McCormack, 2004). We propose that an environment structured to facilitate SDL may make a difference.

A key to success could potentially lie in the creation of a supportive learning environment (Cox, 2015; Pyhalto, Stubb, & Lonka, 2009), which in this study we conceptualize as an environment that supports SDL. Supportive learning environments have been shown to influence a student's perception of collaboration, program satisfaction (So & Thomas, 2007), academic achievement, and the development of key skills for doctoral success (Lizzio, Wilson, & Simons, 2002). Doctoral students often experience confusion, lack of control, and a perceived need to be micromanaged regarding each step of the education process (Barnes & Austin, 2009); therefore, the creation of an environment that is supportive throughout the doctoral process and guides students to take control of their own learning could be key to the doctoral student attrition problem.

Self-Directed Learning

SDL is important to an adult-learning educational approach that builds an environment where the student transitions from an individual who expects the faculty to guide his or her every step to one who utilizes faculty expertise only when needed (Knowles, 1975). This process allows students to become more autonomous and helps them take control of their own learning (Cox, 2015; Knowles, 1975, 1980). An SDL environment seems essential for doctoral education as the ability to be autonomous and control one's learning environment are central to doctoral student success and also for success in many careers that require a doctoral degree (Cox, 2015; Garrison, 1997). As doctoral students progress through their programs, it is important for them to learn *how* and *when* to take charge of their own learning.

An SDL environment requires students to proceed through an educational program with a greater sense of purpose and motivation (Knowles, 1975). Students

need the freedom to customize the process to fit their needs (Cox, 2015; Nepal & Stewart, 2010). SDL can give students the ability to be lifelong learners, which is particularly important for the fields in which doctoral graduates tend to work. However, we should not assume that students automatically make this transition completely upon entering a Ph.D. program. Indeed, this process should be considered a competency to have attained by the time of graduation (Knowles, 1975).

There are many assumptions associated with SDL, which are important to fully understand the model. First, individuals will grow over time in their capacity to be self-directed, which is closely linked with the maturation process. Second, the learner's experiences (e.g., iterative successes and mistakes) should be incorporated into his or her learning process as these are rich resources for learning. Third, students are naturally either task- or problem-centered, and, ideally, learning experiences should be organized as task accomplishments or problem-solving learning projects. Finally, SDL assumes learners are motivated by internal incentives such as self-esteem, the desire to achieve, accomplishments, the need to gain specific knowledge, and curiosity (Knowles, 1975, 1980).

SDL posits that it is important to address the development of self-directed learners from the perspective of the student, the support system, and the learning environment (Knowles, 1975). Successful doctoral programs have been shown to have environments built on support and encouragement, careful guidance, education regarding access to resources and opportunities, sharing of pertinent information, a safe environment where mistakes can be learning opportunities, stimulation of knowledge acquisition, and advisors serving as role models (Cox, 2015; Pata, 2009).

Previous research has demonstrated that adults prefer to be self-directed, and learning programs designed with this in mind may increase ownership toward the learning experience (Armstrong, 2010; Candy, 1991; Garrison, 1997; Knowles, 1975). In order for students to demonstrate their readiness for SDL, they should be open to learning, show initiative, be able to work independently, accept responsibility, love to learn, be creative, look toward the future, and have the ability to use basic study and problem-solving skills (Hashim, 2008). An SDL environment builds upon these student competencies to assist students in becoming accountable for planning, carrying out, and evaluating their own learning (Armstrong, 2010).

Knowles (1975) developed a 5-step model for incorporating SDL into the educational learning culture. These steps include diagnosing learning needs, formulating learning goals, identifying needed human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes. *Diagnosis of learning needs* refers to the process of estimating the current level of one's knowledge and skill or one's progress in gaining the desired knowledge and skill. This dimension is twofold and involves students constructing a mental model of expectations and then assessing their discrepancies. The mental model includes the desired behaviors, performance, or competencies a student perceives he or she needs for success. Here the individual learner's own perception of what he or she wants to become, what he or she wants to be able to achieve, and at what level he or she wants to perform is important. If the program is not in alignment with the student's

perception regarding goals and expectations, this could become a barrier to the student's progress.

Formulating learning goals refers to the planning process. In this phase of the SDL model, the teacher guides the activities of the student and provides the student with needed content resources. The student then utilizes this information to develop his or her own learning goals and makes decisions regarding the necessary knowledge and skills.

Identifying human and material resources necessary for learning is conceptualized as the individual gaining an understanding of the resources required for successful goal completion, which could include human resources such as tutors, faculty mentors, or research partners. It could also include material resources such as nonrequired readings (e.g., books not required in coursework), computer resources provided by departments, software, or group study space.

Choosing and implementing appropriate learning strategies is defined as the process of deciding where to learn, setting self-imposed deadlines, deciding when to begin a learning episode, and deciding on the appropriate amount of time to proceed during a learning episode (Knowles, 1975). The decision regarding appropriate strategies should be determined by the student based on the previous SDL dimensions.

The final dimension in the SDL model (Knowles, 1975) involves the process of *evaluating the learning outcomes*, which requires the student to evaluate the effectiveness of his or her learning and the previous steps of the model. For this step, the student should critically evaluate personal goal achievement or lack thereof, actions during the process, and how to adjust the approach in the future.

Given the piecemeal approach to previous research examining doctoral program noncompletion (Council of Graduate Schools, 2018), the present study aimed for a more complete understanding of doctoral program experiences in terms of Knowles' (1975) 5-step model. This model is holistic in that it encompasses education episodes from start to finish and can be viewed through a personal or environmental lens. This study captured student perceptions of their doctoral programs and qualitatively identified attributes of the learning environment from the student perspective. Our overall research question was as follows: to what extent are former doctoral students' experiences consistent with Knowles' (1975) 5-step SDL model? A secondary research question asked the following: what experiences did former doctoral students have that might inform improvements in the learning environment that will help create an SDL environment? By qualitatively identifying and linking student experiences with the SDL conceptual model, we hope to begin the work of articulating best practices that can be further explored to help develop more successful doctoral programs. Student experiences can offer insight into the development of an SDL environment and possibly improved graduation rates. To date no research has been conducted at the doctoral program level using the SDL framework.

Method

The present exploratory study used a qualitative framework analysis approach (Green & Thorogood, 2004). This technique does not aim to develop theory as in many

qualitative approaches but instead to summarize and classify data within a previously established conceptual framework. This approach was designed for "generating policy and practice-oriented findings" for the social sciences (Green & Thorogood, 2004, p. 184). This methodological approach was chosen to allow us the opportunity to ask probing questions based on the answers given by the respondents. Qualitative research is less structured and allows researchers to delve deeply into a topic and gather information about the participant's motivations, thinking, and attitudes. Interview questions are designed to ask follow-on probes, add to the clarity of the data, and give researchers the ability to fully understand the phenomenon (Green & Thorogood, 2004). We interviewed former students from doctoral programs at a large research university in the U.S. Midwest. The university had maintained a variety of doctoral programs for over 40 years and had traditional, cohort-based programs that were appropriately accredited. Prior to data collection, the study was approved by the university's Institutional Review Board.

Sample and Participant Selection

In order to recruit participants, we contacted a number of doctoral program directors via e-mail. The directors were asked to contact former doctoral students who might want to participate in the research. They also were asked to only contact students who had either graduated or left their programs within the last 5 years. Once former students were identified, recruitment e-mails were sent to an equal number of potential participants.

A total of 32 individuals responded to the request to participate and 30 completed the interviews. Fifteen of the participants had graduated within the last 5 years and 15 had dropped out of their program. It is also important to note that the latter 15 had dropped out of their own volition and had not failed out. Those who dropped out tended to do so between the second and third years.

The self-described SDL program made the systematic change toward this approach in 2000. At that time, faculty were trained in the 5 steps of the Knowles' SDL approach and mentored throughout the change process. According to the program director, some of the faculty felt the SDL approach was not in line with their own approach and left the university for other positions. According to the SDL program director, the average graduation rate during that time was 84%, and 100% of the respondents in this study graduated. This sample consisted of eight men (ages 25-37) and eight women (ages 24-39). Their undergraduate academic backgrounds ranged from psychology (n = 6), business administration (n = 6), and liberal arts (n = 4).

The non-SDL program utilized what the program director called a "traditional approach" to doctoral education. For the non-SDL program, the graduation rate for that period was 49%, and 50% of the respondents in this study graduated. This sample consisted of eight men (ages 27-44) and six women (ages 22-35). Their undergraduate academic backgrounds ranged from psychology (n = 8), business administration (n = 1), finance (n = 4), and liberal arts (n = 1).

Procedure

The interview questions were developed after a comprehensive review of the SDL literature. The questions allowed potential probes to be included based on participant responses. The interviews were semistructured (Patton, 2002). Specific incidents such as challenges, self-motivational techniques, and lessons learned while in the program were the central focus. After the first few interviews, we discussed the questions and data and modified the interview slightly to add probes and additional questions. Interviews were held on a university campus and each lasted 60-120 minutes. All interviews were recorded and transcribed. A copy of the questions can be found in the Appendix.

Analysis

Data were analyzed using a content analysis technique for qualitative data (Elo & Kyngäs, 2008). Content analysis is a systematic coding and categorizing approach used for exploring large amounts of textual information to determine trends as well as patterns, frequencies, and relationships of words used (Grbich, 2007; Pope, Ziebland, & Mays, 2006). The steps of the analysis process included the following: familiarizing with the data, generating initial general themes, collapsing themes into codes within the SDL framework, assigning comments to one of the preexisting SDL codes, and producing the final report (Vaismoradi, Turunen, & Bondas, 2013). The analysis organized the data into the 5 steps of Knowles' (1975) SDL model: diagnosing learning needs, formulating learning goals, identifying human and material resources needed, choosing and implementing appropriate learning strategies, and evaluating learning.

Ensuring Data Validity

In order to ensure data validity, we employed several methodological techniques associated with qualitative research. Member checking was utilized as it is considered a highly regarded method of rigor within qualitative research (Lincoln & Guba, 1985). During this process, the interview transcripts were first returned to the respondents to verify they were correct. No discrepancies were found in this process.

Inter-rater reliability was also utilized in this study as this is considered the most extensively used reliability technique within qualitative research (Campbell, Quincy, Osserman, & Pedersen, 2013). To ensure reliability and avoid bias, two trained researchers (i.e., the first author and a graduate assistant) read the transcripts independently and conducted their own coding. Next, they met to compare codes and then discussed any coding discrepancies. They met a total of seven times until a high level of consensus was reached. Ultimately, there was 89% consensus on the chosen codes. At this point, the coding was deemed reliable.

Findings

Data revealed many examples that were associated with the Knowles' (1975) SDL model. In general, there were more positive statements made from respondents that had participated in the SDL program than those who had not. These statements noted the importance of supportive environments, which were built on several programmatic components or stepping stones. Components included mastery of program requirements before students were allowed to progress, the importance of developing the learning environment appropriately, the benefits of a close working relationship with the program chair, and the importance of open and honest dialog from the very beginning. Below we illustrate each of the SDL model's dimensions with quotes from those who had attended the SDL program and those who attended the non-SDL program. Pseudonames were given to the respondents to protect their privacy, and whether or not the program was completed is indicated. Negative exemplars are also offered, when available, in each dimension.

Theme 1: Diagnosing Learning Needs

Diagnosis of learning needs refers to the process of estimating the current level of one's knowledge and skill, constructing a mental model, and assessing one's discrepancies (Knowles, 1975). There were a number of examples where constructing a model was evident. The SDL program respondents appeared to understand the expectations of their program. It is also interesting to note the ways in which the participants came to understand these expectations. For example,

> *My husband went through the same program about five years ago so I knew exactly what I was in for before I began. That is one reason I waited to apply. I knew I needed to be ready to fully devote myself to this and have other parts of my life in order first.* (Emily, completer)

Information given by the program during admission seemed to help SDL program participants develop an appropriate mental model regarding program expectations. For example,

> *When I interviewed them (the faculty) laid it on the line and told me what a time-consuming program this was. They really scared me a bit and said I needed to devote 40 hours a week on coursework and sometimes weekends. I took that very seriously.* (Justine, completer)

However, the information given during the admission process did not resonate well with all the new SDL program students. For example,

> *They gave me so much stuff to read in the beginning. Too much stuff so I really didn't get around to reading it until half way through the first semester. They*

> *told me it would help me and I wish I had listened. I made some major mistakes that they had warned me about beforehand.* (Marcus, completer)

Some non-SDL program participants indicated a misalignment between the program's expectations and their own understanding of the expectations. For example, the following participant noted confusion regarding the time needed to devote to her studies:

> *I could not get over how much extra work there was. Somehow, they just expected me to drop everything else in my life and find time to do research with them. I wish I had known this before I entered the program.* (Susan, noncompleter)

The second aspect of diagnosing refers to assessing discrepancies. This is the process of identifying gaps between the competencies specified in the students' perceived model (expectations) and their present level of development (Knowles, 1975). This is an extremely important aspect of the SDL model; that is, if the students' understanding regarding expectations were not in alignment with program expectations, students may not be able to accurately diagnose their discrepancies.

SDL program respondents appeared to understand their own strengths and weaknesses and take steps to potentially correct deficiencies early in their coursework. For example,

> *I started buying books and reading them. Books on research! I even bought an APA manual as it had changed in the last few years. I wanted to know as much as possible going in* ***Day One****. Maybe this was based on fear, but in the end, I wanted to really just get ahead of the game*. (Justine, completer)

However, not all SDL program students were as cognizant of their academic challenges upon entering their respective program. One appeared to be overly confident in his ability based on his acceptance into the program:

> *I know how difficult it is to get into such a high-ranking doc program and I did. I know some of my fellow cohort members jumped in full force to their books but I thought it best to just let the process happen. Why panic when I clearly have what it takes to be successful.* (Devon, completer)

For the non-SDL program, some respondents indicated lack of having time and role expectations that aligned with their program's expectations. Interestingly, their diagnoses seemed to occur after they had struggled rather than proactively as SDL would predict:

> *According to my advisor, no one held his hand during the process. I had to figure things out on my own.* (Megan, completer)

Theme 2: Formulating Learning Goals

The second component of SDL is the process of formulating learning goals (Knowles, 1975). SDL program participants noted the iterative learning process throughout the program. For example, several respondents noted the importance of weekly planning meetings with their advisor and the level of ownership the students had over that process from the very start:

> *From Day One I was told (by my advisor) that I was in charge of my own learning. If there was something, I didn't understand they were not going to come to me about it. I needed to go to them, get extra help, get a tutor, or study more.* (Sasha, completer)

Non-SDL program participants described a number of examples where they had not taken ownership of their own learning goals, and often they fought the learning goals they were assigned. For example,

> *They just kept telling me what to do but it never made any sense to me. I just didn't get why I had to do so many things*. (Cindy, noncompleter)

Some of the respondents indicated they tried to be involved in their own learning goals, however, believed they were quickly told to conform and be silent:

> *If I spoke up and asked "why?" or if I could try something different, they told me to "do as I was told to do."* (Mark, completer)

> *They (professors) actually told me not to think for myself. You are not here to think they would say. Wow . . . I'm becoming a PhD and I'm not allowed to think. Really! Will they ever allow me to think?* (Bryan, noncompleter)

Theme 3: Identifying Human and Material Resources Needed

The third component of the SDL model involves the student identifying human and material resources needed to be successful (Knowles, 1975). In the SDL program, participants offered relevant examples. Several noted the importance of developing strong relationships with faculty in order to be successful:

> *I learned in the first few weeks the importance of networking with my professors. The importance of developing trusted alliances for potential research opportunities.* (Emily, completer)

Others from the SDL program clearly understood the importance of doing more than what was required or assigned in their coursework. For example,

> *I was an academic sponge and that trait proved to be quite valuable*. (Linda, completer)

> *I started going to academic conferences just to watch the process. You can learn so much by just watching silently*. (Emily, completer)

However, there were examples of students from the SDL program who did not understand the importance of pushing beyond programmatic expectations.

> *Some students bought all sorts of extra books, watched extra research videos, and sat in on extra classes. I didn't have time to do more and if it was useful, I am sure they would have told me to do it. Right?* (Mary Clare, completer)

In the non-SDL program sample, all of the respondents noted the importance of material resources for their learning, but consistently each noted frustration at being expected to do more than originally understood:

> *I didn't have data analysis software on my home computer. I didn't have time to go to campus constantly to work on their computers. You would think they would have given us the software.* (Matt, noncompleter)

Other non-SDL program respondents noted the importance of interpersonal support and their lack of personal initiative searching out such individuals:

> *I was about half-way through the program and on the verge of failing out when someone told me to get a tutor for statistics. Why did they wait so long to tell me that?* (Jean, noncompleter)

These respondents also felt the professors recognized their lack of resources but intentionally did not assist the students. According to three of the respondents, professors would often say,

> *Being self-sufficient, knowing what you need and where to find it is key to success.* (Susan, completer)

Susan then elaborated on this statement and noted,

> *Self-sufficient I understand but we (students) need to have a starting point. We don't know where to start in order to become self-sufficient so we end up just freezing, giving up, and for me quitting. I could have used some direction instead of nothing at all.*

Theme 4: Choosing and Implementing Appropriate Learning Strategies

The fourth step in Knowles' (1975) SDL model involves the student choosing and implementing appropriate learning strategies. A surprisingly basic strategy noted by SDL program participants was the use of a calendar. For example,

> *I went out and bought one of those old-fashioned desk calendars before I began. I wrote everything on that calendar, checked it every day, and held myself accountable to make all the deadlines. I remember being told that during orientation.* (Chris, completer)

SDL program respondents also noted the importance of carving out a space for study:

> *When I was in my master's program I could study wherever. In my car, watching TV, or at my kids' games, I was always studying. During orientation they told me, I needed a dedicated place for study and a dedicated time for study. So, I cleared out a room in my house and told everyone that was my office until I graduated. I also posted study hours to keep myself accountable.* (Desmond, completer)

Still, other SDL program students found themselves to be disorganized and unable to find the time or space to focus on their coursework. For example,

> *I basically took the same approach to organization I used in my master's program. I would just fit in schoolwork around my life. Problem was, that didn't work out too well and I found I was just falling behind from day one.* (Patricia, completer)

Non-SDL program participants noted the importance of clear deadlines being given by the faculty. When these students needed to define their own deadlines, they often came up short:

> *I wish I had a weekly "to do" list like I did in my Master's program. Daily activities would have been great. I had a tough time staying on track and then quickly fell behind. Each new semester I would say I would do better, develop my own daily schedule, but then life intervened.* (Lisa, noncompleter)

Other respondents noted the importance of finding an appropriate place to focus on learning:

> *Whenever I went to the library to get my work done I got nothing done. I'm just too social, maybe a bit ADD, and I had trouble staying focused. If I saw someone, I had to talk to them and before I knew it, the place was closing.* (Timothy, noncompleter)

Theme 5: Evaluating Learning

The final component of Knowles' (1975) SDL model involves the evaluation of one's learning. For this study, this means an analysis of the learning that has transpired for the doctoral student throughout his or her time in the program.

Several respondents from the SDL program sample noted the life-changing ways in which their doctoral studies had affected them:

> *When I began this program they (faculty) told us they would make us into doctors. I didn't really know what that meant but now I do. It's not a degree simply; it's a way of viewing the world. This isn't a series of letters after my name; it's a way I approach all information now*. (Arianna, completer)

However, the data also demonstrated examples of SDL program students who did not find their experience to be as "life changing" as other students:

> *This [the degree process] was more involved than I anticipated. I'm not sure I would go through all that again. That is if I knew what I was in for*. (Gerard, completer)

The non-SDL program sample gave examples where the respondents clearly did not take the time to assess their learning in its entirety. Respondents noted issues such as falling behind on coursework, deadlines, and then feeling they had no choice but to give up. For example,

> *I met so many people who told me they decided not to finish their degree. I did not see a point to completing it myself eventually. Why did I even start this process? I don't remember why I began*. (Angela, noncompleter)

Discussion

While there is a great deal of research seeking to understand why doctoral degree completion rates are often low in U.S. universities, there appears to be a lack of research regarding the impact of an SDL environment on the issue. The issue of doctoral degree completion is complex with participants identifying many factors affecting their progress or lack thereof. This study sought to address two research questions. The first question examined how former doctoral students' perceptions of their experiences fit within Knowles' (1975) 5-step SDL model. The data suggest an environment built on the SDL dimensions might be worth careful consideration by doctoral program faculty and directors who are looking toward improvement. Consequently, implementing a model that seeks to facilitate and nurture an SDL environment within doctoral education could have the potential to impact graduation rates.

It appeared that those in the non-SDL program did not have the same level of experiences supporting autonomy and self-directedness as did the SDL program

respondents. Recall that the graduation rates from the two programs were quite different during the same period (SDL program = 84% and non-SDL program = 49%). As higher education experiences unprecedented financial constraints and a barrage of dramatic changes, it is important for program leaders to carefully assess resource allocation. The time, expense, and effort invested into doctoral programs is extensive regardless of the instructional approach; therefore, it is imperative to funnel these resources in the most effective way possible.

It might be assumed that an individual who is applying to a doctoral program knows what lies ahead; however, for many of the participants this was not the case. By the time some of the respondents understood the time commitment, expectations regarding working independently, and importance of developing relationships, many of them were too far behind and too overwhelmed to catch up, and many dropped out. While it is possible that some of these individuals may have dropped out regardless of the type of program they were in, developing orientation sessions that articulate best practices in terms of assessing learning needs, offering time management assistance, and being clear on program expectations might alleviate some of the problems.

The second research question looked to understand the experiences of former doctoral students, which might inform improvements to the learning environment. This research gives a number of ideas that doctoral program directors might want to consider in the development of an SDL environment. For example, during the admission process and orientation, give candidates a clearer understanding of time commitments and time management guidelines.

A second recommendation would be for program directors to carefully analyze their curricula, policies, and procedures and consider making changes to align more closely with the tenets of an SDL environment. Certainly, we are not recommending one standardized approach to all programs, and senior leadership would need to develop programmatic components that would work for their unique needs. Such changes would require a significant shift in what are often deeply embedded academic approaches; however, smaller pilot programs within one department might help to gauge acceptance and success. If these pilot programs were successful, larger structural changes could be implemented and SDL components could be expanded to other departments

A third recommendation would be to carefully analyze doctoral faculty competencies with respect to SDL. The SDL approach is intentional and proactive, and it is possible that not all faculty are suited to such an instructional method. Traditionally, universities designate doctoral faculty based on tenure and publication quality. The ability to work closely with students and a desire to nurture student learning is not necessarily part of the doctoral faculty designation particularly at large research institutions. Therefore, a careful evaluation of which doctoral faculty members are best suited to an SDL approach and then training them might be beneficial.

Finally, at many universities the faculty is not incentivized to work with Ph.D. students; for example, dissertation guidance is simply added to faculty workloads. Therefore, universities may need to provide more resources for faculty and train them on facilitating SDL environments. A combination of inherently self-directed students

combined with an SDL environment may be a fruitful direction for improving graduation rates.

Limitations and Concluding Remarks

As with all research, this study had some limitations. First, our sample came from only two programs and data were qualitative, limiting our ability to make comparisons or draw inferences. A larger quantitative study should be conducted to encompass both successful and unsuccessful students from SDL and non-SDL programs. Second, all the data came from one institution so it may not be representative of all universities. In addition, it would be beneficial to evaluate various types of doctoral programs in order to assess potential differences between disciplines in relation to the various SDL dimensions.

There are a number of implications to this research for doctoral students, faculty advisors, and universities. First, this is the only study that applies an SDL lens at the doctoral level and, therefore, adds to the literature on SDL. Second, these results offer a potential approach university leadership might want to consider for their doctoral programs as it might be desirable—we would argue—to increase the self-directedness of their doctoral students.

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Appendix

Semistructured Interview Questions

1. Do you feel you were adequately prepared to pursue a doctorate degree?
   Probe: Can you give a positive example?
   Probe: Can you give a negative example?
2. What do you think could have been done to prepare you better for completing the doctorate degree?
   Probe: Please give an example from a personal perspective.
   Probe: Please give an example from a university perspective.
3. How do you feel your doctoral chair helped you while you were trying to graduate? Please give an example.
4. How do feel your doctoral chair hindered you while you were trying to graduate? Please give an example.
5. How do you feel the rules and procedures associated with your doctoral program helped you while you were trying to graduate? Please give an example.
6. How do you feel the rules and procedures associated with your doctoral program hindered you while you were trying to graduate? Please give an example.
7. How do feel you helped yourself during your progression through the doctoral program? Please give an example.
8. How do feel you hindered yourself during your progression through the doctoral program? Please give an example.

Demographic Questions:
Age: _____
Gender: _____Male _____Female
Did you graduate? _____Yes _____No
Did you have doctoral level experience prior to entering this program? _____Yes _____No

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RELATIONSHIP OF SELF-DIRECTED LEARNING AND RESILIENCE IN HEALTHCARE MIDDLE MANAGERS

Marilu Piotrowski

As healthcare delivery, education, and technology dramatically evolve, middle managers serve a vital role in communication. Studies provide convincing evidence that resilience and self-directed learning can each be acquired and improved. This study investigated the relationship of resilience and self-directed learning readiness in healthcare middle managers. From a large, integrated healthcare system in Western Pennsylvania, 68 interprofessional middle managers participated. A significant positive correlation ($p < 0.001$) was found between the mean scores of the Self-Directed Learning Readiness Scale and the Personal Resilience subscales of Positive: Yourself, Positive: The World, Flexible Thoughts, and Focused. Approaches used to solve new problems in the workplace by highly self-directed, highly resilient healthcare middle managers were identified as conferences/workshops (40%), internet (20%), and colleagues/mentors (20%). It is imperative for healthcare middle managers to optimize their abilities and resources to engage employees, manage costs, and attain favorable, sustainable patient outcomes as transformations in healthcare continue in 21st-century healthcare delivery.

Keywords: healthcare leaders, middle management, self-directed learning, resilience, 21st-century skills, leadership development

As the United States transitions toward value-based healthcare delivery, middle managers are a vital group of employees necessary to implement effective outcomes. Middle managers in healthcare disciplines such as nursing, pharmacy, physical therapy, and radiology are often promoted into their administrative roles based on positive performance as direct healthcare employees (Wilmoth & Shapiro, 2014). Meanwhile as healthcare middle managers, daily organizational challenges affect their work environment in a different way compared to their direct frontline healthcare work. In order to achieve optimal organizational performance, effective managers must orchestrate current knowledge and critical problem solving in their responsibilities for effective, positive employee engagement and organizational performance.

Unfortunately, middle managers have been considered the most neglected employees in American work environments with a low priority identified on sustained middle-manager training efforts (Lipman, 2015). A study in a healthcare organization

by Skagert, Dellve, and Ahlborg (2011) demonstrated a 40% manager turnover within 4 years. As a result, attrition of managers and the employees they supervise further created costly consequences. Employee retention issues impact human resources (Hudgins, 2016), employee satisfaction (Zwink et al., 2013), and adverse patient outcomes (Warshawsky, Rayens, Stefaniak, & Rahman, 2013). Investment into the educational development of middle managers could address effective handling of the ongoing daily work issues. Further, Hartviksen, Sjolie, Aspfors, and Uhrenfeldt (2018) found middle managers do value educational development, but many organizations are hesitant to spend limited monies on education for this midlevel employee.

Overview

Much of the research and theory about healthcare middle managers has focused on qualitative perspectives in the discipline of nursing, core competencies, general leadership development, or employee engagement. Minimal research has been conducted relating the characteristics of resilience and self-directedness with healthcare middle managers. Considering the existing complex, dynamic healthcare work environment, attrition of healthcare personnel, and minimal educational support for middle management, it would then be important to identify characteristics in the selection and development of the middle manager in the healthcare work environment.

Two constructs that could make a difference are self-directed learning (SDL) and resilience that support the theoretical framework for this study. SDL is the individual's ability to seek information on topics of personal need whereas resilience is the individual's ability to manage adverse circumstances. Both SDL and resilience reflect an internal control by the individual. In addition, decades of research with various populations within each construct of SDL and resilience reflect a common attribute of positivity. However, the relationship of SDL and resilience was limited. Further, a gap in the literature on this relationship existed for the middle manager and healthcare worker populations. Establishing knowledge in this relationship can foster success for individuals who desire to advance into this role as well as organizational success. Middle manager healthcare workers who possess and continue to develop SDL and resilience can improve their work not only for themselves but also for everyone involved in healthcare organizations with respect to their daily work issues and outcomes.

Purpose

The purpose of this study was first to explore the relationship between SDL and resilience in healthcare middle managers; and second, to identify the approaches for information that healthcare middle managers seek when new issues arise in the healthcare workplace.

Literature Review

The three key areas of resilience, adult learning, and leadership involved in this study were explored in the literature. The construct of resilience sought research focused on individuals, processes, and a connection with learning. Adult learning incorporated a variety of types, but SDL readiness was the focus for the population of middle managers in healthcare. Finally, the area of leadership explored evidence regarding learning and development to effectively manage workplace issues.

Resilience

Resilience reflects an individual's ability to overcome adverse situations. Initially, resilience was described as involving hardiness. Hardiness had been identified in pediatric populations before extending into the military and then in general stressful workplaces (Bartone, 2012; Judkins, Reid, & Furlow, 2006; McAllister & McKinnon, 2009). Strong correlations of hardiness with the dimensions of a person's internal commitment and control had been identified by these researchers. Bartone (2012) argued that psychological hardiness served as one of the "pathways to resilience" (p. 8) and was important for leaders in organizations.

Obstacles to successfully resolve problems in the workplace have frequently been associated with personal resilience. Capanna, Stratta, Hjemdal, Collazzoni, and Rossi (2015) positively correlated resilience with well-adjusted personality profiles. Personal strength was most associated with emotional stability; social competence with extroversion, agreeableness, and conscientiousness. High scoring individuals were psychologically healthier and more resilient. In a convenience sample of leaders with at least 1 year of supervisory experience in nonprofit, business, education, and government organizations, statistically significant findings were identified, particularly in the relationship between leader self-differentiation and resilience (Howard & Irving, 2014). Resilience was recommended as a valuable attribute in recruiting more effective leaders.

Conner (2006) concurred with the importance of resilience and a focus on the person and situations. People are "designed by nature to move through life most effectively and efficiently at a unique pace that will allow us to absorb the major changes we face" (Conner, 2006, p. 12). The interesting component in his work added that the fastest transition for change occurred first by individual's adjustments followed by organizations and then society. Conner's work captured a more comprehensive impact of resilience beyond the individual person. His model evolved into seven characteristics of resilience: positive (the world and self), focused, flexible (thoughts and social), organized, and proactive.

Using Conner's (2006) model, Hoopes (2012) expanded personal resilience in organizations. Key themes to achieve successful outcomes regarding personal resilience included the importance of buy-in by individual leaders, active participation with an emphasis on personal learning, and sharing a trusting culture. Hoopes further identified the benefit of building personal resilience within organizations. Resilience enabled people and technology to serve as additional resources to handle diverse problems. The

work by Conner and Hoopes contribute to the construct of resilience in the study of healthcare middle managers.

Resilience, as a strength, enhanced a proactive solution perspective. Healthcare workers often seek "problem-oriented" rather than "solutions-oriented" approaches in handling diverse problems. However, individuals with positive personal attributes are able to cope and build support during difficult circumstances. McAllister and McKinnon (2009) argued that resilience can be learned, can be blended well in a transformative education framework, and should be particularly initiated in higher education courses for future workplace enrichment. They also acknowledged that stressful work environments in healthcare disciplines require lifelong learning.

As a process, resilience has been found to possess a dynamic nature during periods of change and is utilized in organizational strategy (Gillespie, Chalboyer, & Wallis, 2007; Jackson, 2018). Resilience and its innate energy for cognitive transformative practices beneficially manage change. A cyclic process of reframing a stressful situation until it personally changed and then viewed in a positive way involves resilience. For example, in a Florida health system transforming its culture, resilience was interconnected at the individual, team, and organizational levels. Caring perceived by individuals in the everyday relationships on the various levels during transformational change fostered sustainability and resilience (Spake & Thompson, 2014).

In further research studies, resilience has been identified as a key trait for nurse managers (Zwink et al., 2013) and healthcare leaders (Kellis, 2013). Other successful characteristics for healthcare middle managers included communication, integrity, and vision. During organizational crises, the influence of healthcare leaders' behaviors impacted greater levels of positive affect and resilience in the organization's team members (Sommer, Howell, & Hadley, 2016). Hudgins (2016) identified the overall lack of research regarding resilience in nurse leaders and its relationship with job satisfaction and anticipated turnover. However, a statistically significant relationship ($r = 0.51$, $p < 0.01$) was identified between resilience and job satisfaction scores, providing additional evidence of the value of resilience in the healthcare manager position.

Lastly, resilience in leadership positions can be enhanced through coaching. Structured time to coach individuals built middle managers' resilience and confidence in a public health organization (Sherlock-Storey, Moss, & Timson, 2013). Similarly, coaching assisted nurse managers' self-concept, provided them support, and broadened their perspectives (Smith, 2015). Literature demonstrated resilience is helpful in succession planning by retaining and developing this population of midlevel nurse leaders. Overall, current 21st-century healthcare reforms need strong, resilient leaders and teams to transform processes for success.

Adult Learning

Similar to resilience studies, SDL was explored over several decades. Knowles' andragogy model incorporated the core principles as best practice for working with adults: the learner's need to know, self-concept, prior experience, readiness to learn,

orientation to learning, and motivation. More recently, Knowles' original model was expanded to an "andragogy in practice" model (Knowles, Holton, & Swanson, 2012, p. 4). The andragogy in practice model enveloped the components of "subject matter," "individual," and "situational differences" (Knowles et al., 2012, p. 4) as a first ring around Knowles' core principles; the overall goals and purposes for learning in this model created a second ring consisting of "institution," "individual," and "society" (p. 4) aspects. The entire andragogy in practice model was designed in an outward direction starting with the core principles, followed by the first and second rings of components to encompass a more comprehensive, updated, and applicable model for today's learner in various settings.

Brockett (2015) also supported SDL involving interactions with other people and reflective practice. Hiemstra and Brockett (2012) formulated and refined a model within a social context. The person, process, context (PPC) model incorporated "dynamic interrelationships" (p. 158) equally influencing these three elements. Heimstra and Brockett (2012) found that most research reflected the person and process aspects while little work was done between person and context.

Adult learning in a social context influenced new perspectives and transformative learning through a 10-step process presented by Mezirow (1991). Learning cycles individual reflection and dialogue toward transformation. As a result, collective dialogue transforms organizational learning (Mezirow, Taylor, & Associates, 2009). Christie, Carey, Robertson, and Grainger (2015) suggested transformative learning was synonymous with independent thought as each person has a particular view. Other research showed that self-directedness moderated transformative learning aspects through critical reflection (Chu, Chu, Weng, Tsai, & Lin, 2012). Interestingly, Nohl (2015) added that a *dilemma* may not be required as the first step proposed by Mezirow; rather, phases could occur casually as "a new practice is added to old habits" (p. 45). As SDL supports lifelong learning, a transformative learner perspective satisfies lifelong individual and organizational needs.

SDL has been plagued with negative issues in practice. Meta-analyses acknowledge that not all individuals are self-directed (Murad, Coto-Yglesias, Varkey, Prokop, & Murad, 2010; O'Shea, 2003). An appropriate type of learner and setting must be considered (Murad et al., 2010; O'Shea, 2003). Douglas and Morris (2014) found in focus groups at a large university's healthcare and business schools that students identified self-monitoring and goal setting as valuable facilitators of their SDL. Curricular design and professional enthusiasm by faculty coupled with administrative support enhanced the success of SDL. MacPhee, Change, Lee, and Spiri (2013) argued that an "I" to "we" collaboration counters the self-only perspective. Boyer (2017) posited personalization as a catalyst in learner self-direction. Developing a positive frame of thinking about SDL can establish a productive application for future needs both personally and in the workplace.

Further, technology impacts the way adults learn today. In 1989, "Knowles foresaw technology as one of the major forces shaping adult learning in the 21st century and a force that would be consistent with andragogy" (Knowles, Holton, & Swanson, 2012, p. 242). Overwhelming choices can abound (Brockett, 2006). Work and careers have been reshaped in a knowledge economy requiring innovation and

creativity (Soule & Warrick, 2015). Advancing technology in education and practice has identified SDL as a 21st-century skill (Gore, 2013; P21: Partnership for 21st Century Learning, 2009). Researchers have shown that SDL is an essential skill (Du, 2013), can successfully be acquired (Dynan, Cate, & Rhee, 2008), and as a learner-centric design can empower students (Hains & Smith, 2012).

Guglielmino (2008) also argued its resurgence. She stressed SDL provided benefits in formal learning settings, the workplace, and in personal settings. Additionally, she noted a natural human tendency exists to seek information whenever a need arises. Currently, society presents ever-increasing change. This requires continuous lifelong learning and relearning by each individual to overcome obstacles. SDL serves as a survival tool in addition to the confidence, competence, and satisfaction it can provide.

Often, the work of healthcare middle managers requires an entrepreneurial practice with a need for new knowledge and perspectives. Davis, Taylor, and Reyes (2014) presented lifelong learning in nursing as a dynamic process personally and professionally. In work settings, healthcare managers need to not only make SDL a priority for those they supervise but also prepare themselves on how to develop in this role. This focus on the individual in his or her workplace links with the transformative learning and leadership needed for organizational change (Merriam & Bierema, 2014). Hartvikson et al. (2018) identified leadership capacity through knowledge, trust, and confidence. The development of leadership knowledge and skills through action correlated significantly to engagement and positive impact on sustainability (Walia & Marks-Maran, 2014).

Despite a natural relationship between resilience and SDL, research studies are rare regarding this relationship. In a study of graduate students from a Tennessee university's departments of education, health, and human sciences, Robinson (2003) identified a significant positive relationship between mean scores on the Self-Directed Learning Readiness Scale (SDLRS) and a resilience scale. Four common items among the instrument items reflected self-concept, control, responsibility, and persistence. Significant results were found with increased age and education. Although the difference in correlation was small, as age increased, resilience tended to increase. Robinson also identified the need to measure these characteristics with other adult students/community groups and different instruments.

Middle Management and Leadership

Leadership has been described as "the process of influencing others to understand and agree about what needs to be done and how to do it. And the process of facilitating individual and collective efforts to accomplish shared objectives" (Yukl, 2013, p. 7). Research has demonstrated the important roles of midlevel leaders in communication and strategic development for organizations (Johansen, 2012; Urquhart et al., 2018). Midlevel managers can impact organizations more than upper level managers (Johansen, 2012) as they solve immediate problems, allocate resources, and synthesize information received system wide. Relationships and motivation through autonomy were found to be the most important predictors of middle managers' activities (Chen,

Berman, & Wang, 2014). Midlevel managers and leaders serve vital roles in organizations.

Various aspects of leadership have influentially impacted the work environment, employee job satisfaction, and turnover. First, managers with transformational and authentic-type leadership styles were identified to engage employees and learning cultures within the workplace (Garcia-Sierra, Fernandez-Castro, & Martinez-Zaragoza, 2016). The aforementioned transformative learning and reflection presented by Mezirow et al. (2009) aligns with the application of a transformational-style leader in the healthcare setting. Second, significant differences were identified when nurses perceived their managers as supporting a learning culture to improve the clinical work environment (Henderson, Burmeister, Schoonbeek, Ossengerg, & Gneilding, 2014). Conversely, poor interpersonal relationships were associated with low employee engagement levels and higher turnover in healthcare organizations (Collini, Guidroz, & Perez, 2015). Last, the aspect of employee engagement has also been associated with a leaders' emotional intelligence (EI) and its beneficial impact on the job satisfaction among their staff. EI can be learned through coaching and educational programs to enhance the leader's emotional and social skills and thereby assist employee job satisfaction and retention (Feather, 2015).

A significant correlation ($r = 0.59$, $p < 0.01$) was identified between EI and SDL in healthcare managers (Muller, 2007). Further, effective self-directed leadership development in organizations was fostered through individual self-reflection, emotional management, and self-regulatory practices (Nesbit, 2012). As a result, practical frameworks for EI and leadership development can be established in healthcare organizations to support critical reflection by healthcare leaders to deepen their understanding, personal development, and strategic planning (Heckemann, Schols, & Halfens, 2015; Wilmoth & Shapiro, 2014; Wilson, Patterson, & Kornman, 2013). Through personal development of healthcare managers, improvements in the care for patients and efficient use of resources can be further achieved.

In leadership practice, the value of collaboration and interprofessional teams has grown in managing the complexity of today's healthcare environment. For an organization's success, "leadership development may be as important as leader development" (Garman & Lemak, 2011, p. 1). The former builds the capacity of the team whereas the latter builds individual skills. MacPhee et al. (2013) identified not only the need for leadership development but also the trend to prepare global health care leaders and models for interprofessional health care leadership. An "I" (leader) to "we" (shared) approach was proposed as a beneficial way to start interprofessional development in complex health care systems. Again, critical self-reflection by the leader along with formal learning can be further developed and sustained over time for a shared team approach. This enables a breakdown of the existing silos in organizations.

Lown et al. (2011) concurred with the complex nature of interprofessional teams and recommended a professional development curriculum with a focus on shared decision making and collaboration. They recommended an urgent need for continuing professional development to benefit organizations. Additionally, Lown et al. (2011) felt an ongoing professional development model should be linked with quality and patient

safety outcomes for sustainability. In research seeking a better understanding of professional development needs, Miltner, Jukkala, Dawson, and Patrician (2015) conducted a qualitative study of 20 U.S. nurse managers through a set of three focus groups. The emerging themes suggested limitations existed in basic role management such as decision making and problem-solving skills. The participants reported selection into their current role was a result of identification as an excellent clinician, but a formal future orientation in the middle-manager role was lacking. Hartvikson et al. (2018) concurred through focus groups that the establishment of a learning network was beneficial to better understand the complex context in the workplace and alternative approaches for managers.

Overall, research involving healthcare middle managers suggests that ongoing leadership learning is required for the complex issues faced in this role. A leader's style and EI can affect the workplace, job satisfaction, and turnover. Engagement of employees as well as the leader in their own critical reflection can impact the performance in individual departments as well as the greater organization.

Problem Statement

SDL and resilience in healthcare middle managers/leaders may be vital to the success of healthcare operations and future outcomes in the organization such as employee retention and cost effectiveness. This research explored four questions:

1. What is the relationship between SDL readiness and resilience mean scores in healthcare middle managers as measured by the SDLRS and Personal Resilience Questionnaire (PRQ)?
2. Which aspects of resilience as measured by the PRQ occur most frequently among healthcare middle managers?
3. Which mean scores in SDL readiness and resilience, as measured by the SDLRS and PRQ, most strongly relate to the participant's age, the number of years working in healthcare, the number of years as a healthcare middle manager, and the highest level of formal education?
4. What most commonly used approaches are selected by healthcare middle managers with the highest SDLRS and PRQ scores for seeking information regarding new issues in the healthcare work environment?

Sample/Population

The Western Pennsylvania region boasts a rich healthcare work environment with two large healthcare systems affiliated with university medical schools, several smaller healthcare systems, and additional independent community hospitals. One of the two large healthcare systems was used for this research. The parent national healthcare insurance organization employs over 35,000 employees and its seven hospitals and medically-related facilities in Western Pennsylvania employ over 17,000 individuals.

A convenience sample of 75 healthcare middle managers/leaders from three of the urban, acute-care hospitals within this healthcare system originally consented to

participate in the study. Table 1 reflects the final group of participants. Healthcare middle managers/leaders were classified as individuals who reported to a senior manager and collaborated with interdisciplinary professionals across the healthcare system. This population included individuals such as managers, nurse supervisors, and radiology directors. Convenience sampling helped to optimize a variety of healthcare middle managers of various ages and healthcare specialties within this population.

Instrumentation

Self-directedness and resilience were measured using two established instruments. The online versions were selected to enhance the convenience and response rate for the healthcare middle managers. First, the PRQ (Resilience Alliance, 2009) is a 75-item, 5-point Likert style self-report assessment originally developed in 1996 with internal consistency, test-retest reliability, and construct validity. The PRQ is categorized into seven themes of resilience: Positive (World, Yourself), Focused, Flexible (Thoughts, Social), Organized, and Proactive. Examples of statements assessed on the PRQ include "If a day starts out badly, things will probably be bad all day." This reflects the theme of "Positive: The World." The "Focused" theme assesses the individual's response to "I maintain my focus on achieving my goals even when there are obstacles in my path." The theme of "Flexible:Social" sought a rating for the statement, "I feel at ease fairly quickly with most people." A percentile score in each of these themed areas was generated for the participant's Personal Resilience Profile (PRP). The individual's percentile scores were compared to over 70,000 other people from a range of organizations and countries (Hoopes, 2012).

Table 1. *Interprofessional Healthcare Leader Participants (*n = *68)*

Category	Discipline	*n*	*P*
Health Professional		36	53%
	Nursing, Pharmacy, Respiratory, Diagnostic Imaging, Physical Therapy		
Ancillary		15	22%
	Business/Finance, Human Resources, Information Technology, Decision Support, Medical Records		
Administrative Healthcare		17	25%
	Non-specified		

Second, Guglielmino's SDLRS is an instrument with content and construct validity as well as internal consistency and test-retest reliability (Guglielmino & Associates, n.d.). The 58-item instrument uses a 5-point Likert-type scale response for each statement. The items reflect openness and interest in learning opportunities, self-

concept, the ability to use basic study and problem-solving skills, and a positive orientation toward the future. The established instrument score can range from a low of 58 to a high of 290 with the average adult score at 214 (Guglielmino & Associates, n.d.). The SDLRS was distributed under the title Learning Preference Assessment to avoid influencing participant responses.

Additionally, part of the SDLRS included a demographic section. The items asked age, gender, country, highest level of education completed, and occupation. The instrument also enables a researcher to add three additional multiple-choice questions recognizing a one-answer selection into the demographic section; thus, information was requested regarding the participant's past experience of working in healthcare, length of experience as a healthcare leader, and attainment of knowledge regarding new issues in the healthcare work environment.

Procedures

The research occurred with the various groups and participants during their hospital leadership meetings and via email. During administrative leadership meetings, I personally discussed the purpose of the research study, encouraged the healthcare leader's participation, and obtained voluntary consent forms. Participants received the SDLRS website link and code via email with a 2-week deadline for completion. Reminder notes were emailed to participants after 1 week and again 1 day before the deadline. The parent organization's certified training specialist consented to assist me by providing each participant's PRP after receiving participant consent. This enabled me to match PRQ with SDLRS scores.

Findings and Discussion

SDLRS – PRQ Relationship

First, a significant, positive relationship was found in the mean scores of the SDLRS and the PRQ, particularly in the subscales of Positive: Yourself and The World, Flexible: Thoughts, and Focused. The findings in this research at a level of significance ($p < 0.001$) further supported Robinson's (2003) study that showed a positive relationship between SDL readiness and resilience in graduate students. Table 2 presents the aggregate raw and percentile scores, followed by the correlation of the resilience subscales in Table 3. Further, a sample of the strong visual correlation illustrated in Figure 1 reinforces this significant relationship. Although there were graduate level nursing and education students in Robinson's research, this study extended the correlation to a new group of individuals (middle managers/leaders in a healthcare system) and the use of a different, well-established resilience assessment tool (PRQ). The PRQ captures a rich set of subscales and has been used in organizational settings (Hoopes, 2012).

The results from this study supported the relationship of self-directedness and resilience in healthcare middle managers/leaders in established models. First, the andragogy in practice model (Knowles et al., 2012) incorporated the importance of

individual and situational differences in its first ring enveloping the core adult learning principles. A variety of disciplines were represented in this research with middle managers in nursing as the largest discipline. Although all participants were employed in urban, acute care hospitals in Western Pennsylvania, there were variations within the departments and geographic locations. Meanwhile, Heimstra and Brockett's (2012) model identified the need for more studies involving Person and Context in relation to self-directedness rather than the predominance of studies involving Person and Process. This study contributed to their model involving the People as healthcare middle managers/leaders and the Context as the healthcare delivery environment. The study explored not only the relationship between SDL and resilience for healthcare middle managers but also for this population the approach in the healthcare delivery environment to seek information when issues arise. The importance of both of these models supported the relevance of self-directedness and resilience of the healthcare middle managers/ leaders in their education and practice. The healthcare workforce constantly maintains relationships with people as coworkers, patients, and the greater healthcare community.

Table 2. *Results From the SDLRS and PRQ Instruments*

Instrument	Aspect	Range	*M*	*SD*	Med	25th	75th
SDLRS	Raw Score	193-277	238.76	18.99	237	227	251.5
(*n* = 68)	Percentile	18-99	75.38	19.59	79	66	91
PRQ	Subscale Percentile						
(*n* = 66*)	Positive: World	28-99	70.83	21.64	77	51	92
	Positive: Yourself	2-99	76.89	21.30	84	64	92
	Focused	5-99	69.39	24.07	77	51	91
	Flexible: Thoughts	4-99	55.89	26.23	61	35	78
	Flexible: Social	4-99	73.00	23.98	84	67	91
	Organized	1-99	55.45	27.22	58	34	76
	Proactive	1-99	54.55	28.99	55	29	78

**Note*. PRQ scores were not available for two participants.

To date, research involving midlevel healthcare leaders has been scant. This study established the important relationship of resilience and self-directedness in midlevel healthcare leaders. As a result, this research finding can be developed to stimulate midlevel leaders' deeper thinking and empowerment through reflection about issues and actions taken. Reflection was identified in Mezirow's (1991) model involving transformative processes through his reference to "meaning perspectives" (p. 193). Further, the importance of effective self-directed leadership development through

self-reflection, emotional management, and self-regulatory processes has been recognized in the research literature (Muller, 2007; Nesbit, 2012) and in healthcare leadership models (American Organization of Nurse Executives, 2015; National Center for Healthcare Leadership, n. d.). Midlevel healthcare leaders must daily handle issues and serve as a bridge between front-line workers and senior leadership in organizations. The attributes of self-directedness and resilience can encourage individuals to think more deeply about the perspectives in their work environment and its impact.

Table 3. *Correlation of SDLRS Mean Percentile Score With PRQ Subscale Mean Percentile Scores (*n = *60*)*

Resilience Subscale	*r*	*p*
Positive: World	0.439	**<0.001**
Positive: Yourself	0.513	**<0.001**
Focused	0.477	**<0.001**
Flexible: Thoughts	0.489	**<0.001**
Flexible: Social	0.340	**0.008**
Organized	0.202	0.121
Proactive	0.317	**0.013**

**Note*. Eight participants either did not complete the SDLRS or their PRQ scores were not available.

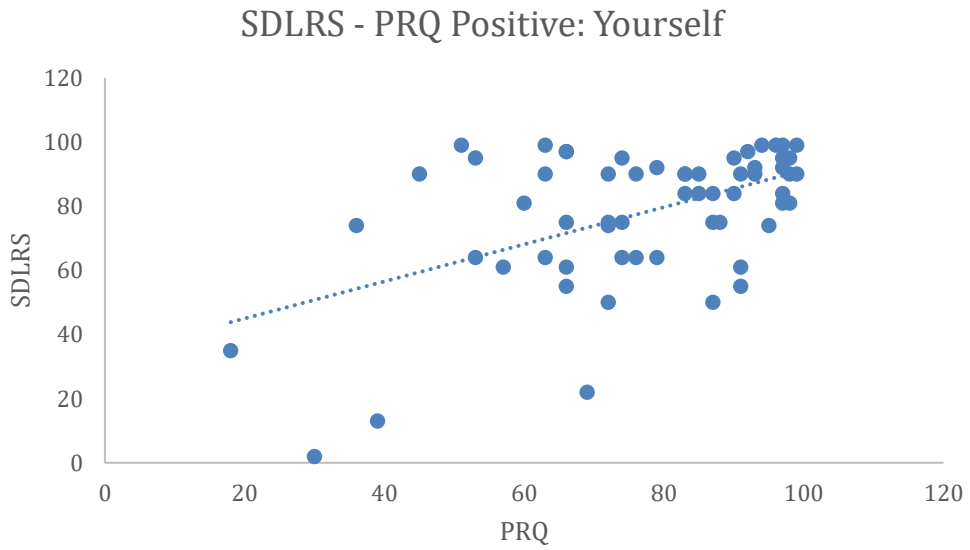

Figure 1. Sample correlation.

Personal Aspects of Resilience Among Midlevel Healthcare Leaders

Two of the top four significant resilience subscales ($p < 0.001$) were Positive: Yourself as the highest with Positive: The World. Positivity has been an important characteristic identified in leaders (Wilson, 2005), learning for self (Hiemstra & Brockett, 2012; Knowles et al., 2012; Wilson et al., 2013), and the importance of self as a first step toward collaboration (MacPhee et al., 2013). The Positive: Yourself score rank was an appropriate result considering this was a group of midlevel healthcare leaders dealing each day with challenges in the workplace. As Hoopes (2012) described, this component is an important reflection of the personal confidence one needs in the face of uncertainty. Health care regulations and finances challenge management leaders with constant levels of uncertainty. Positivity helps build coping skills during difficult times (McAllister & McKinnon, 2009) and has been related to SDL and life satisfaction (Edmundson, Boyer, & Artis, 2012). Strong positivity and resilience link with healthcare leaders' behaviors, particularly authentic and transformative leadership styles (Garcia-Sierra et al., 2016; Kellis, 2013; Sommer et al., 2016). This can contribute to the sustainability of not only the healthcare middle managers/ leaders but also the individuals they supervise and their input to senior managers.

Two other significant resilience subscales were Flexible: Thoughts and Focused. Creativity in the workplace can be influenced by being open to many ideas offered by subordinates in the internal and external work environments. A creative mindset can reframe stressful situations. By considering options and leading others with a focus, a clearer vision can be accomplished for the department and organization.

Hoopes (2012) identified the other resilience subscales complementing the overall individual's resilience. The Proactive subscale reflected risk taking during uncertainty, and the Organized subscale showcased the development of structure during chaos. Today's interprofessional healthcare teams need to apply their self-directedness and resilience in collaboration with others. This can result in success with all individuals and at all levels. As MacPhee et al. (2013) proposed from their research, an "I" to "we" leadership approach benefits complex systems.

Overall, healthcare delivery systems should be ever mindful of the dynamic nature of resilience (Hoopes, 2012) and the ongoing resilience capability and education readiness needed for healthcare middle managers/leaders. In meta-analyses of literature, supportive work environments have been linked to empowerment of nurses and served as a protective factor (Hart, Brannan, & DeChesnay, 2014; Reyes, Andrusyszyn, Iwasiw, Forchuk, & Babenko-Mould, 2015).

Relationship of SDL Readiness and Resilience to Age, Experience, and Education

Unlike results in Robinson's (2003) research or supplementary information associated with the SDLRS and PRQ instruments, a significant relationship was not identified with the participant's age or experience in this study. These results may have been affected by the large number (41%) of participants aged 56 years and older. Similarly, their number of years working in healthcare and as healthcare middle managers/leaders were high. Healthcare leadership development is achieved through experience and education

(Leach & McFarland, 2014). The small sample size in this study coupled with a high percentage of these healthcare middle managers' similar level of age and experience may explain the lack of a significant correlation in the mean scores from the SDLRS and PRQ in age or experience.

Regarding formal education, over 50% of the participants in this study had earned a master's degree or higher. Although the difference was minor, the mean scores on the SDLRS and PRQ were slightly higher in the group who had obtained graduate degrees over the group with an undergraduate degree as their highest level of formal education. Higher levels of education in this sample of midlevel leaders have been associated with higher scores in all the subscales in the PRQ except for Organized. This may suggest advancing formal education is beneficial in healthcare work settings and further support in the work by Leach and McFarland (2014) who found leadership development to be achieved through experience and education.

Approaches Used in New Healthcare Work Issues

A noteworthy element identified the selection of conferences/workshops to handle ongoing issues in the workplace. This key resource offers participants a concentrated amount of information on select topics, informal dialogue with colleagues, and application through games/exercises within a controlled period of time. However, financial restrictions and time limitations in healthcare systems may limit the middle manager's ability to participate in conferences and workshops. Conferences and workshops—internally and externally, and at regional, national, and global levels—are beneficial for insight and opportunities for growth in individuals and, consequently, the organization.

Realistically, a combination of utilizing the Internet and colleagues was an expected finding based on the review of literature and healthcare practice. It was positive to see the high use of the Internet in this population of individuals who were largely reporting themselves as members of the older age groups. From a timing and practical perspective, these individuals learned about Internet resources socially and in practice rather than through their foundational formal education. This research led to another unexpected finding: 3 out of the 28 individuals over age 55 years felt particularly strong about their active use of electronic listserv subscriptions. This prompted them to eagerly email me a special note detailing specific listserv names used to keep abreast of new information in their professional discipline.

In the literature review for managers, coaching was found to support resilience and self-confidence (Sherlock-Storey et al., 2013; Smith, 2015). Currently, healthcare coaches through health insurance companies are familiar in patient care practice. However, for the healthcare middle managers/leaders, reliance on colleagues or mentors rather than professional coaches was the outcome in this study. The categories of coaches, colleagues, and mentors may relate to perception of the terms. Colleagues are conveniently available in the work setting rather than professional coaches in an organization's human resources department or an external organization.

Journals were valued by these healthcare managers/leaders, but the low response to the use of books in this group was a concern. Many books are available

electronically today. However, the participants' response to books as a resource for issues may reflect the limited amount of time these managers/leaders have to read and reflect on more extensive literature while maintaining their own work-life balances. One also wonders if a general lack of awareness of the newest, relevant publications or simply a preference for other types of resources on a regular basis play a role here. Healthcare organizations should consider alternatives such as creating journal clubs, creating blogs, and devoting time for updates concerning helpful topics and trends available in the professional healthcare publications during leadership meetings. This stimulation can further direct healthcare middle managers/leaders to invest time in their independent exploration of books and then share the information with their colleagues and subordinates.

Conclusions

Professional competence and leadership development are responsibilities mandatory for the advancement of those serving roles in leadership at all levels. This study primarily examined the relationship between resilience and SDL in healthcare middle managers. The results demonstrated a significantly positive correlation between SDL readiness and resilience in this population of healthcare middle manager/leaders in Western Pennsylvania. However, this finding has limited generalizability to the total population of healthcare middle managers since the sample is somewhat limited in size and geographic region.

Overall, these results contribute to the literature concerning resilience, SDL, and leadership. Further, the enhancement of middle manager/leaders' competence can optimize effectiveness of human resources in healthcare delivery, employee retention, cost savings through outcomes, and employee engagement. It is imperative for human resource and department managers involved in hiring new middle managers to incorporate initial and ongoing recognition of this strong and influential relationship of SDL readiness and resilience in the workplace and advancing development for competence. Ultimately, it is clear the implementation of healthcare middle manager development can create a noticeable, positive impact on the evolution of healthcare organizations and the communities they serve for the 21st century. Healthcare middle managers play a crucial role in fueling innovation and performance for a durable healthcare workforce.

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TEACHER-DIRECTED PROFESSIONAL DEVELOPMENT: AN ALTERNATIVE TO CONVENTIONAL PROFESSIONAL DEVELOPMENT

Bryan Artman, Natalie Danner, and Sherry R. Crow

This article explores the current research on the state of teacher professional development practices. The literature shows that conventional professional development practices are typically deficient in addressing teacher and, indirectly, student needs. Conventional professional development practices were shown to be deficient due to their one-size-fits-all nature, top-down structure, and lack of continuous follow-up and support. Teacher-directed professional development (TDPD), an application of self-directed learning, is discussed as an alternative to conventional professional development practices. TDPD participation may include Twitter chats, teacher support groups, mentor talks, etc. The literature points to the success of TDPD because it is flexible, participatory, empowering, motivating, and an aid to creating a sense of teacher community.

Keywords: conventional professional development, online professional development resources, professional development, self-directed learning, teacher-directed professional development

Teachers are professionals who must continually learn and grow in their pedagogical skills, in order to stay current so to ensure that students are learning and growing. Professional development (PD) is one way to help teachers improve their pedagogy. PD refers to many types of educational experiences related to an individual's work (Mizell, 2010). Teachers participate in PD to learn and apply new knowledge and skills that will improve their performance on the job.

School districts, institutes of higher education, and other organizations provide many formal opportunities for PD for teachers. Conventional PD (CPD) is defined as a formal process such as a conference, seminar, or workshop; collaborative learning among members of a work team; or a course at a college or university (Mizell, 2010). Some U.S. states mandate these types of formal CPD in order for licensed educational professionals to maintain their state teacher certification.

State legislation also has a part in mandating teacher PD. Many times, PD is connected to the results of teacher evaluations. "In 2017, at least 10 states enacted legislation to improve the connections between teacher evaluations and professional development, and/or to provide targeted supports to teachers. In these states, at least 13

bills were enacted" (Education Commission of the States, 2018, p. 2). This allows teachers to pursue PD based on professional skills for which they need honing as evidenced by their evaluations.

Despite the increased intervention of legislatures and the many types of CPD processes available, research shows that the current PD system is broken (Hill, 2009) and in some cases, is a complete waste of time (Vu, Knoell, Nebesniak, & Strawhecker, 2018). In this article, we will illustrate some of the criticisms of CPD and describe an alternative model—teacher-directed professional development (TDPD), an application of self-directed learning (SDL)— that offers promise in supporting teacher and ultimately student growth (Wagner, 2018).

What Is SDL?

SDL has its roots in the work of Allen Tough and Malcolm Knowles. Tough (1971) described a highly deliberate effort to gain a certain knowledge or skill; gain knowledge, insight, or understanding; or an attempt to improve skills, performance, or attitudes as a *learning project*. According to Tough, learning projects are motivated by curiosity, interest, and enjoyment. The term *self-directed learning* was first defined by Knowles (1975) as action whereby individuals take the initiative with or without the help of others in diagnosing learning needs, formulating goals, identifying resources, and evaluating learning outcomes.

In the 1980s, SDL became a core tenant of adult education theory. "No concept is more central to what adult-education theory is all about than self-directed learning" (Mezirow, 1985, p. 17). According to Mezirow, self-directed learners can assess their needs, set objectives, plan and carry out their learning experiences, and evaluate them. Self-directed learners diagnose their own learning needs and formulate their own goals.

According to Brookfield (1985), SDL incorporates learner freedom, autonomy, independence, and student-centeredness. SDL, per Brookfield, is an avenue for critical insight, independent thought, and reflective analysis. In SDL, the learning is self-directed but not isolated, and can occur in large or small portions. Brookfield saw the self-directed learner as having control over how or what is learned, the resources used, the strategies implemented, and how goals are evaluated. Similarly, Garrison (1997) described SDL as an approach where learners are motivated to assume personal responsibility and collaborative control of the cognitive and contextual elements of the learning process.

Common Criticisms of CPD

Lack of Quality

One of the most concerning criticisms of conventional school- and district-based PD offerings is the lack of quality. CPD has been criticized for being fragmented and superficial (Alberth, Mursalim, Siam, Suardika, & Ino, 2018; Borko, 2004; Yang & Liu, 2004) with concerns about the contextual knowledge of the presenters and the classroom relevance (Atay, 2007; Corcoran, 1995). A common criticism of CPD

offerings is their one-off nature (Visser, Calvert Evering, & Barrett, 2014; Jaquith, Mindich, Wei, & Darling-Hammond, 2010), which leaves the participant dangling with many questions if the teacher is even willing to try the new technique or idea at all. CPD offerings have also been criticized for their lack of follow-up and continuous support (Nicholas, Avram, Chow, & Lupasco, 2018; Visser et al., 2014; Zerey, 2018), which limits the implementation into classroom practice (Lokita Purnamika Utami & Prestridge, 2018).

Failure to Meet Teacher Needs

The top-down, one-size-fits-all approach of CPD offerings is also highly criticized as this creates a lack of teacher agency and buy-in and limits teacher leadership opportunities (Nicholas et al., 2018; Zerey, 2018). Due to subject matter differences, grade differences, student needs, etc., this approach does not meet the needs of all attending teachers (Freidus et al., 2009; Kruger, Van Rensburg, & De Witt, 2016; Minott, 2010; Visser et al., 2014) and tends to fail because it does not take into account individual teacher experiences, teacher learning styles, teacher strengths and weaknesses, or with what the teachers are currently struggling.

One of the most important teacher needs, especially in hard-to-staff schools, is a sense of belonging or community. Feelings of teacher isolation have been shown to cause teachers to leave the profession, especially new teachers (Schlichte, Yssel, & Merbler, 2005). The top-down, one-size-fits-all approach not only fails to address feelings of teacher isolation but could potentially increase those feelings (Nicholas et al., 2018; Shurr, Hirth, Jasper, McCollow, & Heroux, 2014) because it limits their interactions with experienced staff members.

Failure to Meet Student Needs

The largest and most important criticism levied against conventional state and district PD offerings is that they do not improve instructional practices (Lokita Purmamika Utami & Prestridge, 2018; Visser et al., 2014; Zerey, 2018). Due to their one-off nature, lack of continuous support, and top-down structure, studies show that CPD fails to meet teacher needs and improve instructional practices (Lokita Purnamika Utami & Prestridge, 2018; Shurr et al., 2014; Visser et al., 2014). Because CPE fails to meet teacher needs and improve instructional practices, it ultimately fails to meet student needs and improve student achievement.

Barriers to CPD Outside of the School Setting

For teachers seeking to improve their practice outside of the school or district setting, common barriers remain. The most commonly cited barriers to attending conferences, seminars, etc. outside of the school setting are time constraints (Lawless & Pellegrino, 2007; Smith, Wilson, & Corbett, 2009), family obligations, and budget constraints (Nicholas et al., 2018; Yuwono & Harbon, 2010).

The barriers to CPD coupled with its common criticisms paint a clear picture of the problem faced. In order to properly offer PD in a way that benefits teachers and students, alternatives are needed. One alternative, introduced here, is TDPD.

Benefits of TDPD

What is TDPD?

TDPD is an application of SDL in that it incorporates learner freedom, autonomy, and independence (Brookfield, 1985). While primarily shown in the literature to take place in an online setting, it can be any teacher-initiated growth, learning, or development activity outside of conventional school or district offerings. Examples include but are not limited to mentor talks, teacher support groups, twitter chats, professional learning communities, and Massive Open Online Course participation (see Table 1). The primary characteristic of all of these activities is that they take place outside of conventional school offerings and target specific teacher wants and needs. Teachers can self-assess their needs, set objectives, plan and carry out their learning experiences, and evaluate them as is common to SDL situations (Mezirow, 1985).

Table 1. *Types of Teacher-Directed Professional Development*

Peer-to-Peer Learning	Online Resources	Social Media
Professional Learning Communities or Communities of Practice (Borko, 2004; Israel, Ribuffo, & Smith, 2014; Wagner, 2018)	Online Conferences / Interactive Webinars / Synchronous Online Meetings (Kruger et al., 2016; Lawless & Pellegrino, 2007; Prestridge, 2017; Simpson, Qi, He, & Tao, 2016)	Twitter Chats (Nicholas et al., 2018; Visser et al., 2014; Wagner, 2018)
Mentor Talks / Modeling / Peer Mentoring (Bates & Morgan, 2018; Borko, 2004; Nguyen & Baldauf, 2010; Schlichte et al., 2005)	Online Asynchronous Modules (Fraser-Seeto, Howard, & Woodcock, 2015; Gaumer Erickson, Noonan, & McCall, 2012; Hill, 2009; Israel et al., 2014; Lawless & Pellegrino, 2007; Rao, Edelen-Smith & Wailehua, 2015; Shurr et al., 2014; Utami &	Facebook Groups for Teachers (Alberth et al., 2018; Utami & Prestridge, 2018)

	Prestridge, 2018)	
Reaching Out to Family or Friends who are Teachers (Schlichte et al., 2005; Utami & Prestridge, 2018)	National Board Certification (Corcoran, 1995)	
Teacher Support Groups (Freidus et al., 2009; Schlichte et al., 2005; Wagner, 2018; Zerey, 2018)	Web Searching (Utami & Prestridge, 2018; Wagner, 2018)	
Microteaching / Peer Review (Kusmawan, 2017; Loo, 2013; Ostrosky, Mouzourou, Danner, & Zaghlawan, 2013)	Massive Open Online Courses (Manning, Morrison, & McIlroy, 2014; Utami & Prestridge, 2018)	
Games / Gamification (Vu et al., 2018)		
Teacher Action Research (Atay, 2007; Corcoran, 1995; Utami & Prestridge, 2018; Zerey, 2018)		

The advantages of TDPD are many, especially when compared to the documented shortcomings of CPD offerings.

Solutions for Specific Teacher Needs and Challenges

Unlike CPD that determines the topic, the time, and the method of the PD, TDPD allows the teacher to choose what is studied based on an individual need or interest. Additionally, the teacher controls when the material is addressed and in what format. This could be real-time support, reflective conversations, investigations, posting questions, or seeking resources. These key qualities of TDPD allow teachers to seek out solutions for their specific teaching needs and challenges when they need them in a format that works for their learning styles and schedules (Ambler, 2016; Minott, 2010; Nicholas et al., 2018; Utami & Prestridge, 2018; Visser et al., 2014).

Teacher Leadership and Autonomy

The increased control over the time, place, and format of their learning has several important benefits for teachers who engage in TDPD practices. The first benefit is the opportunity for leadership. Experienced teachers have the opportunity in professional learning networks, twitter chats, teacher groups, etc. to take on mentor roles and share their experiences in personalized ways that CPD does not generally offer (Taylor, Yates, Meyer, & Kinsella, 2011). This control also increases the sense of teacher autonomy as directors of their own career paths and subsequent growth (Fraser-Seeto et al., 2015; Manning et al., 2014; Nicholas et al., 2018; Simpson et al., 2016; Visser et al., 2014).

Enhancing Conventional PD Offerings

TDPD is not just about finding answers and resources outside of CPD offerings. TDPD has been shown to be able to supplement the positive elements of CPD offerings and enhance their relevance (Beltran & Peercy, 2014; Campana, 2014; Slavit & Roth McDuffie, 2013). Twitter specifically is noted in the literature as a tool for enhancing conference attendance (Nicholas et al., 2018; Visser et al., 2014), serving as a form of back channel communication or a recap of events for those who could not attend.

Flexible Communication

A distinct advantage of TDPD tools compared to CPD activities is their flexibility. TDPD tools support synchronous and asynchronous communication (Alberth et al., 2018; Nicholas et al., 2018; Prestridge, 2017; Simonson, Schlosser, & Orellana, 2011). This flexibility allows teachers to communicate and get help when they need it, not just when a conference or PD session is offered.

Removal of Barriers

As discussed previously, one of the criticisms of CPD is its limitations due to time and place. Conferences and workshops may not be accessible to some teachers due to time, distance, finances, etc. TDPD removes these barriers to learning and collaboration. The possible online nature of TDPD allows teachers to collaborate and learn from each other regardless of time, location, distance, or even if they have never met before (Ford, Branch, & Moore, 2008; Haythornthwaite, 2005; Trust, 2012)!

Participatory Nature

The one-off, top-down nature of CPD limits teacher interaction with the material being covered as well as with their colleagues (Taylor et al., 2011). In contrast, the use of TDPD tools has been shown in the literature to be much more participatory (Visser et al., 2014; Wagner, 2018). TDPD tools allow teachers, whether online or in person, to engage in ongoing professional dialogue. This dialogue includes the discussion of,

sharing of, and creation of ideas, resources, etc. (Alberth et al., 2018; Anderson & Baskin, 2002; Lokita Purnamika Utami & Prestridge, 2018; Nicholas et al., 2018; Shurr et al., 2014).

Creating Community and Combatting Isolation

One of the most damaging criticisms of CPD is that due to its lack of relevance and ongoing support, it not only fails to combat feelings of teacher isolation but also can actually enhance them. TDPD however is noted in the literature for helping teachers to build a sense of community (Alberth et al., 2018; Nicholas et al., 2018; Slavit & Roth McDuffie, 2013; Visser et al., 2014), motivation (Nicholas et al., 2018), and confidence (Shurr et al., 2014). These factors/benefits combine to create an avenue for teachers to combat their feelings of isolation. In particular, TDPD proves to be beneficial to teachers in rural areas (geographic isolation), teachers who are isolated by subject area, or teachers who are shy or reluctant to ask for help. Teachers who are unfortunately in an unsupportive teaching environment without local resources or administrative assistance may benefit especially from TDPD tools and experiences.

Potential Barriers to TDPD

Despite the many documented advantages of TDPD, there is a small amount of literature that discusses reasons why teachers may not participate in TDPD activities. Reasons why teachers may not participate in TDPD are time (Nicholas et al., 2018), motivation (Manning et al., 2014), school network blockages (Visser et al., 2014), and a lack of awareness of TDPD resources (Fraser-Seeto et al., 2015). With regard to the lack of awareness, the literature shows that how teachers gain access to TDPD resources is sporadic and isolated with no common thread (Artman, 2016).

Future Research

The literature on the potential barriers to TDPD usage is sparse and is primarily focused on the experiences, views, and benefits of teachers (both nationally and internationally) as they have used TDPD tools and resources. More investigation is needed regarding the viewpoints and experiences of school and school district administrators with regards to TDPD. Investigating the administrative viewpoint on TDPD may reveal other potential barriers to its implementation or it may reveal other avenues of TDPD training or implementation.

Practical Recommendations

Administrative Embrace of TDPD

It is not realistic to think that school administrators in addition to all of their other duties can adequately assess and address the PD needs of their entire staff. In order to adequately meet the needs of all teachers and combat teacher isolation, TDPD practices

should be promoted and encouraged. While administrators will lose some control over the PD of their teachers, they should make teachers aware and even encourage them to both lead and participate in TDPD activities. To promote TDPD, we recommend administrators

- make teachers aware of the TDPD available to them,
- encourage teachers already using TDPD to share experiences in faculty meetings,
- incorporate the use of TDPD into teachers' evaluations, and
- link to social media teacher activities already in place and forward them to teachers.

District Evaluation of Teachers

Due to state licensing concerns, the review of teacher certificates and hours will never leave teacher evaluation. Because of this, school districts are encouraged to incorporate TDPD practices and participation into their formal teacher evaluation framework. An evaluation system that encompasses more than certificates and hours would remove potential barriers to TDPD participation. More importantly, it would allow teacher evaluation to focus more on teacher growth, collaboration, and support that could help reduce teacher isolation and create a school/district atmosphere more conducive to keeping teachers from leaving the profession.

Enhanced Use of Social Media Tools by School Districts

It is imperative that school districts recognize the value of social media tools like Twitter, Facebook, or Instagram beyond that of a public relations or parent communication tool. Using such tools to celebrate student, classroom, school, or school district successes is an excellent but limited use of the tool. Recognizing the value of these tools as a means of teacher development and support and encouraging teachers to access these tools as part of TDPD could ultimately increase student, classroom, school, and district success.

Conclusion

Despite the best intentions of administrators, school districts, and PD facilitators, the PD system as it has been conventionally delivered is flawed. CPD generally fails to meet the needs of all teachers and fails to improve instructional practices and student achievement. CPD fails in these regards because it is bound by time, place, subject matter, and the skill of the presenters.

An alternative to CPD is TDPD, which has its roots in SDL as described by Brookfield (1985) and Mezirow (1985). TDPD, as a primarily online-based form of teacher learning, offers increased flexibility, control, support, and feedback. The literature shows that TDPD, as compared to CPD, is superior in creating a sense of community, teacher autonomy, and motivation.

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EXAMINING SELF-DIRECTED LEARNING IN *FAHRENHEIT 451*

Holley Linkous

A student of self-directed learning provides a perspective commentary on the use of fiction to foster discussion of themes, studies, and theories related to self-directed learning. The novel used is Ray Bradbury's *Fahrenheit 451*, set in a future dystopian society where books are outlawed and any that are found are burned by government officials.

Keywords: self-directed learning, fiction research, *Fahrenheit 451*

Adult learning facilitators are often challenged to expand their teaching toolkit to include a variety of methods of introducing content. Over time, this has grown to include the use of different types of media, including film and books. Long (2004) posed the suggestion that facilitators "use biography, fiction literature, or movie sources to illustrate self-directed learning" (p. 10). This perspective piece is inspired by Leavy's (2013) focus on fiction research. The purpose of this commentary is to review a popular mid-20th century novel to explore the context of self-directed learning (SDL) and demonstrate one approach for teaching components of SDL through literature.

Arts-based research has been explored as an approach to using a variety of media choices to illustrate adult learning concepts. Films such as *Educating Rita*, *Me Before You* (adapted from the novel by JoJo Moyes), and *The Rookie* illustrate transformative learning. The autobiography *Rocket Boys* by Homer Hickam and the accompanying film *October Sky* provide alternatives to exploring SDL through two forms of media: writing and cinema. *Educated: A Memoir* (Westover, 2018) and *Where the Crawdads Sing* (Owens, 2018) are recent examples of books demonstrating SDL, both of which have received high accolades in their respective categories of memoir and fiction.

Ray Bradbury's (1951/2013) *Fahrenheit 451* provides adult learners a clear example of SDL in a concrete setting. For educators who wish to move beyond traditional teaching to remain relevant, the use of fiction in portrayal of adult learning theories is a respected alternative. The intent of this analysis is to provide evidence of the learning experience that transpires in an unconventional and hostile context.

This article uses quotes from Bradbury's novel to specifically illustrate how the protagonist of this story embarks on a transformational SDL experience. Using Hiemstra and Brockett's (2012) Person, Process, Context (PPC) model of SDL, and Merriam's (2001) summarized goals, Bradbury's work of fiction is portrayed as a way of learning that remains relevant to this day. First, I provide an overview of the connection between adult learning and fiction research. Next, I explore *Fahrenheit 451*

through the lens of SDL, considering learner characteristics, the learning process, the context, and critical reflection. Then, I discuss the goals of SDL as seen in the novel. Finally, I conclude this article with implications and limitations of this perspective review.

Adult Education and Fiction Research

Novelists and qualitative researchers share the connection of writing to portray human lives (Leavy, 2012, 2019). For more than two decades, fiction has been used as a qualitative research method to better present social research (Leavy, 2012). Fiction research as a qualitative research method holds the following objectives: "raising critical consciousness, accessing hard-to-get-at dimensions of social life, extending public scholarship, opening up a multiplicity of meanings, building bridges across differences, unsettling stereotypes, and developing empathy and resonance as ways of knowing" (Leavy, 2012, p. 254).

Enabling learners to make connections with others through fiction encourages a different approach to providing examples of the theories in practice. These techniques can build self-efficacy and awareness, both of which speak to SDL in action (Crawley, Ditzel, & Walton, 2012). Another positive impact from the utilization of fiction in education is the progression toward greater social and civic engagement (Gouthro & Holloway, 2018).

As educators, it is impossible to know what will spark the fire to learn in a student; therefore, it is beneficial to provide options to explore. Learning with art is an entirely valid experience. In fact, using literature as an art form to supplement learning processes encourages empathy while also encouraging conversations on diversity and difference and constructive debates (Clover, 2015). Jarvis (2012) called for more research on the depth of empathy obtained from fictional works, recognizing the validity and importance of this teaching method.

Analysis of SDL in *Fahrenheit 451*

After recently rereading *Fahrenheit 451*, it was apparent to me that an essence of SDL was behind the profound impact of the novel. I became passionate about sharing what I learned with others in the adult learning community through manuscripts and presentations. However, when searching for quotes and experiences throughout the story to argue this point, I found that much of what seemed to be perfect examples were founded in personal interpretation. Quotes from the novel, transcribed out of context in a scholarly manuscript, would not be enough to demonstrate the SDL experience of the protagonist Montag. It was in this exploration of sharing my truth that I found the method of fiction research. Inspired by a qualitative study by Leavy (2013), a line-by-line and thematic content analysis of Ray Bradbury's story was deemed necessary to make a successful argument. Adult learning themes are identified and supporting evidence from the novel is then used to illustrate how SDL occurred in learner characteristics, learning processes, and social context.

Applied Components of the PPC Model

The novel depicts Montag's evolving awareness of the society he has blindly accepted in his past. This newfound awareness drives him to learn more about himself and the world around him. His society is one in which the government actively works to influence the exposure of individuals to valuable knowledge thereby limiting the free-thinking aspect of its citizens. These acts are deceptive at best, and Montag is one active contributor in bringing charges against any rebels.

> *We must all be alike.* (Bradbury, 1951/2013, p. 53) – Captain Beatty (Montag's boss)

The novel depicts Montag's life as monotonous. The reader learns that this monotony is deceiving through the actions of Montag's work as a firefighter. In fact, the notion of a firefighter in Montag's world is substantial. Firefighters are the destroyers of information. They are instruments of the government to keep society in the dark, erasing history and important lessons of the past.

> *[Firefighters] were given the new job, as custodians of our peace of mind, the focus of our understandable and rightful dread of being inferior; official censors, judges, and executioners.* (Bradbury, 1951/2013, p. 56) – Captain Beatty

Fahrenheit 451 is examined through the three elements of Hiemstra and Brockett's (2012) PPC model in order to understand the environment that allows the protagonist's learning to take place. This model, expanded from a previous model, places the emphasis on the personal qualities, the learning process, and the context in which the learning is taking place. These three elements connect to create a balance that allows for SDL to occur (Hiemstra & Brockett, 2012).

SDL in a Person

A critical look at Guy Montag's characteristics shows that his willingness to open his mind and see that which he had overlooked in the past is important to his learning process moving forward. This awareness began his journey in self-reflective learning as he attempts to understand himself (cf. Mezirow, 1985). His unhappiness and desire for more out of life are driving points that fuel his autonomy. Montag's willingness to face frightening odds and defy those in positions of power, including mentors, speaks to his resilience for his cause. Once his eyes are open, he cannot refute what he has learned and seen and continues his path toward new knowledge.

Bravery and resilience.

> *'Where do we begin?' He opened the book halfway and peered at it. 'We begin by beginning, I guess.'* (Bradbury, 1951/2013, p. 65)

While the personal characteristics of Montag take Bradbury a novel to explain, this section will briefly address some of the most important. The strongest characteristics exhibited by Montag are his bravery and resilience in the pursuit of knowledge. Resilience is one of the key concepts of self-directed learners as they take control over their learning process (Hiemstra & Brockett, 2012; Robinson, 2003). Characteristics that increase the success in this controlled learning environment include confidence and curiosity (Du Toit-Bris & Van Zyl, 2017; Guglielmino, 2013).

Love of learning and internal awareness.

I want to see everything now. (Bradbury, 1951/2013, p. 154)

Another characteristic that is mentioned for SDL is a love of reading and learning (Du Toit-Bris & Van Zyl, 2017; Guglielmino, 1977, 2013). As Montag begins to feel curiosity to find out what is in the books he is burning, his yearning to read can easily be construed as a love of reading without awareness of what he feels. His love of learning is discernable as he risks his life in the pursuit of knowledge. Finally, in the abandonment of his old life, Montag exhibits a need to share this knowledge with others and change the world.

According to Brookfield (1985), "self-directed learning is concerned much more with an internal change of consciousness than with the external management of instructional events" (p. 15). He continued by indicating that an individual's awareness of how the knowledge frameworks were constructed are important to the process of internal change and stated that the ultimate goal is that SDL occurs with minimal influence from others (Brookfield, 1985). By this structure, the bridge between the individual and the process of learning is built. It can be difficult to distinguish personal characteristics from learning processes in action; therefore, the next section focuses more directly on the process of learning in *Fahrenheit 451*.

SDL as a Process

Early in its theoretical development, Knowles (1975) stated that SDL is "a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs" (p. 18). This foundational concept has remained solid, allowing scholars to build on it over time. This includes the work of Hiemstra and Brockett (2012) in the model used to guide this review. For this section, this statement guides the delineation of SDL as a process.

Curiosity. Montag's process of learning is guided entirely by his curiosity. After his interest in the unknown is piqued, his intrigue is further fueled by his neighbor Clarisse. Clarisse does not force him toward his discovery but sheds light on the way society has changed over time. Montag then questions everything, which is a turning point from which there is no going back for him. He begins to critically reflect on the world around him, his home life, his career, and the society the government has

constructed. In this, the process and Montag's reflection combine to make meaning (cf. Brookfield, 1985).

Learning how to learn.

> *He felt his body divide itself into a hotness and a coldness, a softness and a hardness, a trembling and a not trembling, the two halves grinding one upon the other.* (Bradbury, 1951/2013, p. 21)

Montag is not aware that he knows how to learn. As such, the learning process is not planned or structured. He has been trained rigorously to not question anything, to banish freedom of thought, and to accept ideas in prepackaged format with no room for question and critique. For the first time, Montag experiences what it is like to desire knowledge. He chases that desire, going against everything he has been trained to think and feel. Tentative at first but regardless, he pushes on with his process of inquiry. His experience shows how the process of SDL can be challenging and painful. The protagonist's struggles provide an approach to learning that is ideal for awakening self-awareness in a learning process (cf. Guglielmino, 1977; Taylor, 2008).

SDL in Context

Though the word "self" is found in the term, SDL does not exist in isolation but is influenced by contextual and cultural factors (Brookfield, 1985; Hiemstra & Brockett, 2012). Autonomous learning in any situation is not context-free (Merriam, Caffarella, & Baumgartner, 2007). The protagonist is in a prime situation for experiencing SDL. Montag is in a position of power due to his role as a firefighter. While this allows him access to various sources of material to encourage his own learning, it also puts him in a spotlight. Included in the process of SDL is the movement of the learner to gain awareness of the influences on his or her learning (Taylor, 2008). Montag admits his own blindness and then realizes the deceptiveness of the government and the organization in which he works. After this realization, he wants to uncover the truth that had been hidden for so long. The reader sees how Montag's learning experience is further enhanced by the group, essentially a library of people. He learns on his own surrounded by others. He grasps at a reality they brought before his eyes of which he had previously been unaware.

> *I don't know anything anymore.* (Bradbury, 1951/2013, p. 15)

From the sociocultural context at large to the group of intellectuals—the Book People—Montag joins, each experience plays a role in his learning process. The political climate is volatile and dangerous. Any learning environment is essentially outlawed by a government that wants the people ignorant and gullible, focused entirely on entertainment with no substance. The group provides a safe space where learning is encouraged and valued, seen as a treasure worth risking everything to protect. As

Montag experiences the different phases of learning, his process changes based on these contexts, due to the informal nature of his learning (cf. Candy, 1991).

Applied Goals of SDL

Fahrenheit 451 is of profound impact for individuals who value freedom of knowledge and education. This story, set in a dark, dystopian world, focuses on the attempt by authority to eliminate the ability to think freely and discourages the acquisition of knowledge. It illustrates a society that has fallen into despair at the hands of an extremely controlling government, one that demands acceptance of mindless entertainment.

> *With school turning out more runners, jumpers, racers, tinkerers, grabbers, snatchers, fliers, and swimmers instead of examiners, critics, knowers, and imaginative creators, the word "intellectual," of course, became the swear word it deserved to be.* (Bradbury, 1951/2013, p. 55) – Captain Beatty

The character of Montag's wife represents the epitome of the general public. She is an entertainment junkie and spends all her free time in an alternate reality. In comic books, interactive plays, and reality, relationships are expected to be shallow, and the term "empty sea" is used repeatedly to describe the space between Montag and his wife. Captain Beatty explains that people are happier when they participate in activities that cause an "automatic reflex" (Bradbury, 1951/2013, p. 58), suggesting satisfaction as a result of drugs and other adrenaline-producing hobbies. He believes firefighters are the protectors of the happy world, telling Montag, "We stand against the small tide of those who want to make everyone unhappy with conflicting theory and thought" (Bradbury, 1951/2013, p. 59). So the stage is set for the status quo.

However, Montag becomes swept away in the quest to satiate his curiosity. Assessing readiness for SDL includes several factors such as being autonomous, self-disciplined, and engagement in self-evaluation and self-reflection (Guglielmino, 1977). As the protagonist becomes more aware of the unspoken rules controlling his society, he simultaneously becomes more aware of his surprising unhappiness, essentially becoming more ready for a SDL process.

Goal: Individual self-directedness.

> *I'll hold on to the world tight some day. I've got one finger on it now; that's a beginning.* (Bradbury, 1951/2013, p. 155)

The protagonist's learning process is evident through the PPC model, but the question then becomes the following: to what end? A comparison of three goals in SDL assists in answering this inquiry (Merriam, 2001). The first goal of SDL is the development of an adult to have the capacity to be self-directed. The reader sees Montag's evolution into a humanistic individual seeking to learn for his own reasons

(cf. Brockett & Hiemstra, 1991). Continuing, the second and third goals are crucial to the overall plotline.

Goal: Freedom and justice.

> *But you can't make people listen. They have to come round in their own time, wondering what happened and why the world blew up around them. It can't last.* (Bradbury, 1951/2013, p. 146) – Granger

Another goal of SDL is to encourage "emancipatory learning and social action" (Merriam, 2001, p. 9). In the novel, the final act culminates in a rebellion. Montag is not necessarily the catalyst for the rebellion as the rebellion existed without him. He joins forces with some intellectuals, rebels he would have arrested as a firefighter. This group has one united purpose: a refusal to let the past die in hopes of freedom and a better future for all humanity. The reader becomes aware of Montag's perspective on this chain of events. He becomes introspective, critically reflecting on his own actions and what they say about him. This represents an internal freedom from the restriction of knowledge put in place by the government.

> *"Don't judge a book by its cover," someone said. And they all laughed quietly, moving downstream.* (Bradbury, 1951/2013, p. 149)

The Book People have each memorized a book in order to save the stories from burning to extinction. The mind is each person's most powerful weapon. They are using their brains in the rebellion to fight against a government that seeks to take away individuality, knowledge, and freedom of thought. The novel ends without any indication of social change produced by these exiled intellectuals, but the group's very existence supports Merriam's (2001) goal of SDL as emancipatory learning.

Goal: Transformation.

> *It doesn't matter what you do, he said, so long as you change something from the way it was before you touched it into something that's like you after you take your hands away.* (Bradbury, 1951/2013, p. 150) – Granger

A third goal of SDL is to foster transformative learning (Merriam, 2001). It is in this transition that Montag moves beyond knowledge acquisition and into a completely different version of himself, one from which he cannot return to who he was before. The ultimate transformation is Montag's defecting from his old life to make a new one, turning from an enforcer of governmental oppression to a social activist on a mission.

Critical Reflection in SDL

> *They weren't all certain that the things they carried in their heads might make every future dawn glow with a purer light, they were sure of nothing save that*

> *the books were on file behind their quiet eyes, the books were waiting, with their pages uncut, for the customers who might come by in later years, some with clean and some with dirty fingers.* (Bradbury, 1951/2013, p. 148).

The novel allows readers to get a glimpse inside the changes Montag faces as he becomes more self-aware. Bradbury does not simply describe the actions of Montag but his thought processes as well. Montag evolves from somewhat of an open-minded thinker into an outright criticizer of the society.

Self-awareness.

> *And while none of it will be me when it goes in, after a while it'll all gather together inside and it'll be me.* (Bradbury, 1951/2013, p. 154)

Bradbury's writing moves the reader through the progression with the protagonist, becoming more and more critical of the surrounding cultural environment often masked by the government's propaganda. This presentation is in a creative writing structure, which is different than what is often studied by those interested in adult learning theories. Much like Brookfield (1985) argued "self-directed learning is predicated on adults' awareness of their separateness and on their personal power" (p. 14), the novel gives emphasis to Montag's progression toward a self-directed learner through everything he experiences as he realizes his responsibility in the world he has grown to hate.

Meaning making.

> *Always before it had been like stuffing a candle… Janitorial work, essentially.* (Bradbury, 1951/2013, pp. 33-34)

According to Brookfield (1985), meaning making occurs through the process of critical reflection. This leads to the ultimate goal of adult learning: fully autonomous SDL. A new belief system is created, opening the adult learner to varying new perspectives on the world (Mezirow, 1985). While this new perception occurs, the learner is also becoming enlightened on their current beliefs and attitudes that had not been fully acknowledged in the past (Forrest & Peterson, 2006).

Internal conflict.

> *Why do you trust me? said Montag.* (Bradbury, 1951/2013, p. 147)

Bradbury does an exemplary job of incorporating Montag's critical reflection into the complete novel experience. To leave this out would have been a disservice as the story is much more robust and a richer description with the inclusion of the critical perspective (cf. Guglielmino et al., 2009).

Implications for Practice

In both formal and informal learning contexts, using fiction as an educational tool is an accepted technique. Especially in secondary education, the use of reading classic writings is often instrumental in teaching subjects such as grammar, sentence construction, and other key aspects of writing well. In undergraduate programs, literature courses are a part of some core curricula.

With the intention to not simply educate on literature of society, adult educators can showcase the absolute relevance of educational theories in action. Linking the theories in a practical way shows their timelessness and ability to transcend boundaries between higher education and the world outside the classroom. As adults use their personal experience to process what they are taught, using fiction is a unique way to promote critical reflection and dialogue with learners (Lawrence, 2012).

The reading of fiction is a form of mental role play as the reader assumes the role of the protagonist while reading this novel. Therefore, as Montag undergoes a process of reflection and realization, the reader can see an opportunity to experience the same mental exercises. In context of adult education, this experience of role play allows the learner to envision the SDL process through a fictional character (Gouthro, 2014). Instead of using one's own experiences to critically reflect, this experience occurs through the protagonist and his learning process to bring them through SDL an alternative way (Forrest & Peterson, 2006).

Throughout this novel, the protagonist works through the components of SDL in a way that is relevant to adult learners. As adult educators encounter learners with multiple learning styles, the task of finding learning activities and topics that are relevant and applicable remains important (Kolb & Kolb, 2005). The incorporation of fictional representations of the lessons to be learned is one way to reach individuals who learn best by reading or analyzing creative works. Using novels to teach can also encourage reflective learning and even social change (Gouthro & Holloway, 2018). This speaks again to the third of Merriam's (2001) goals of SDL.

The impetus is on the facilitator to develop relevant discussion questions for successful teaching from fiction. Well-developed questions are designed to draw connections from fiction to reality and encourage a cognitive grasp on the topic (Bloom, Englehart, Hill, Furst, & Krathwohl, 1984). A discussion structured around a proven taxonomy touches on various processes involved in learning. Promoting healthy discussion in a safe environment allows learners to verbalize ideas while listening to other learner interpretations.

Implications for Future Research

Curiosity

Montag, Clarisse, and other characters in the book were highly driven by personal curiosity despite the government's restrictive laws on information. Even Captain Beatty struggled with curiosity as he tells Montag that "every fireman gets an itch" (Bradbury, 1951/2013, p. 59). An investigation into this novel with a specific emphasis on

curiosity as a biological need is required (Berlyne, 1966). Such exploration would support a connection between the love of learning aspect with survival tactics of humans in dire situations.

Improved Adult Learning Facilitation

Fiction research in collaboration with SDL should be further explored to determine how the two interact to create a productive learning environment. It would be prudent to better understand how the facilitator can enhance learning by using the book as a tool. By investigating ways that adult learners respond to various teaching techniques, facilitators can determine which methods work best in their specific educational scenario. For example, a facilitator of adult basic education might decide a structured, guided reading plan works better for learners while a graduate professor may choose to work with learners on a learning project around a novel. Research into these different methods of facilitation can help alleviate any concerns around choosing the best practices in facilitating fiction- or creative writing-based learning.

Context and Power

Critical theorists are a welcome part of the adult learning literature and research. Incorporation of power and social context is foundational in many educational theories, including SDL (Brockett & Hiemstra, 1991). As such, fiction research used in conjunction with SDL and other adult learning theories need to include an exploration into both forms of influence. This commentary discussed the power and social context as it pertains to the novel but leaves much to be considered about both the author's power and the reader's social context in the interpretation of lessons from the novel.

Fiction Research

As a qualitative research method, fiction research is growing in relevance (Leavy, 2019). However, as discussed by Luna (2015) and building off of the previously discussed research implication, taking fiction at face value or without considering the historical and sociopolitical contexts in which it was written may cause the novel to lose some of its significance. When moving forward in fiction research, it may be appropriate to always consider various contextual approaches to themes being studied.

Limitations

One of the most stringent limitations in considering fiction as a teachable method includes knowledge of the all-over context (Nayebzadah, 2016). When it comes to the consideration of power, an adult educator must remain open to the knowledge that the author's power is still exerted over the story and characters.

As fiction is the manifestation of an author's imagination, it is completely subjective (Banks, 2012). Fiction is not entirely real. Any self-awareness or authenticity that seems apparent must be considered for exactly what it is, a creation and a work of

art by the author. When authors send their works out into the world for consumption, they are thereby releasing any intentionality as the readers will then take control over any messages gained or, in such case, theories learned. As such, the learning processes that occur may be entirely different than the educator or author originally intended (Flyvbjerg, 2006).

Conclusion

Fiction-based research is not a common practice and is equally undervalued in teaching by fiction in higher education outside of the courses specifically for literature (Nayebzadah, 2016). Storytelling is an inherently humanistic approach to teaching; therefore, the incorporation of fiction into theoretical approaches to adult learning concepts remains logical. There exists an accessible bridge between fiction and theory, and educators are remiss to ignore it due to disbelief in its validity (Banks, 2012).

> *But even when we had the books on hand, a long time ago, we didn't use what we got out of them. We went right on insulting the dead. . . . We're going to meet a lot of lonely people in the next week and the next year. And when they ask us what we're doing, you can say, We're remembering.* (Bradbury, 1951/2013, p. 156) – Granger

This article provided a preliminary overview of the novel *Fahrenheit 451* viewed through fiction research and SDL. By analyzing the novel, the components of SDL emerged as foundational to the understanding of the story, the main character, and his learning process. With the inclusion of ideas such as social reform and critical reflection, using the model provided by Hiemstra and Brockett (2012), and consideration of the use of culturally applicable options of instruction, this perspective piece provides an argument of why this specific story can be instrumental in teaching SDL-related theories.

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