

Creating a qualified cannabis workforce: How higher education can support cannabis career pathways

by

Becky E. Black

B.S., California State University Long Beach, 1987

M.A., Phillips Graduate Institute, 1995

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF EDUCATION

Department of Adult Learning and Leadership  
College of Education

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

2020

## Abstract

**Background** The popularity of medicinal and recreational cannabis is increasing the need for a trained workforce. The purpose of this study is to examine the workforce needs of the cannabis industry from the perspective of cannabis industry experts. The findings will assist institutions that are providing or plan to offer cannabis academic courses and programs. To meet and respond to the dynamic evolution of the cannabis industry, colleges will need to be nimble or find ways to be nimble.

**Methods** This qualitative study utilized Heidegger's interpretative phenomenological research design to capture the essence of eight cannabis industry professionals' (three females, five males) experience and interpretation of the workforce needs of the growing cannabis industry. Purposive sampling and snowball sampling determined the subjects for the remotely recorded, unstructured, six-question, in-depth interviews. The interviews ranged in length from 49 minutes to 126 minutes. The researcher transcribed the interviews verbatim, then coded and analyzed results for themes and implications for practice. The purpose of this methodology is to describe the essence of the research subjects' lived experiences. The researcher did not bracket their biases.

**Results** Research subjects had from two months to 12 years of experience working in the legal cannabis industry; from three years being affiliated with the cannabis industry and up to 43 years being in the black or black and gray market. They held cannabis licenses in cultivation, manufacturing, distribution, and/or retail. Education ranged from post-secondary to master's degree. All of the research subjects self-identified as being White, non-Hispanic, and ages ranged from 30 to 59. Coding methods included in vivo coding, eclectic coding, focused coding and a top-10 list was used to transition between post-coding and prewriting. Abridged

interviews yielded seven themes for higher education. The phenomenological essence of the interviewees lived experience was love and passion for the cannabis plant, growing it as well as its medicinal properties.

**Conclusion** Academia has the opportunity to support cannabis career pathways by providing cannabis classes and/or programs, thus helping to create a qualified cannabis workforce. The research findings within this study can assist in the design and implementation of these programs.

Creating a qualified cannabis workforce: How higher education can support cannabis career pathways

by

Becky E. Black

B.S., California State University Long Beach, 1987

M.A., Phillips Graduate Institute, 1995

A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF EDUCATION

Department of Adult Learning and Leadership  
College of Education

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

2020

Approved by:

Major Professor  
George R. Boggs, Ph.D.

# Copyright

© Becky E. Black 2020.

## Abstract

**Background** The popularity of medicinal and recreational cannabis is increasing the need for a trained workforce. The purpose of this study is to examine the workforce needs of the cannabis industry from the perspective of cannabis industry experts. The findings will assist institutions that are providing or plan to offer cannabis academic courses and programs. To meet and respond to the dynamic evolution of the cannabis industry, colleges will need to be nimble or find ways to be nimble.

**Methods** This qualitative study utilized Heidegger's interpretative phenomenological research design to capture the essence of eight cannabis industry professionals' (three females, five males) experience and interpretation of the workforce needs of the growing cannabis industry. Purposive sampling and snowball sampling determined the subjects for the remotely recorded, unstructured, six-question, in-depth interviews. The interviews ranged in length from 49 minutes to 126 minutes. The researcher transcribed the interviews verbatim, then coded and analyzed results for themes and implications for practice. The purpose of this methodology is to describe the essence of the research subjects' lived experiences. The researcher did not bracket their biases.

**Results** Research subjects had from two months to 12 years of experience working in the legal cannabis industry; from three years being affiliated with the cannabis industry and up to 43 years being in the black or black and gray market. They held cannabis licenses in cultivation, manufacturing, distribution, and/or retail. Education ranged from post-secondary to master's degree. All of the research subjects self-identified as being White, non-Hispanic, and ages ranged from 30 to 59. Coding methods included in vivo coding, eclectic coding, focused coding and a top-10 list was used to transition between post-coding and prewriting. Abridged

interviews yielded seven themes for higher education. The phenomenological essence of the interviewees lived experience was love and passion for the cannabis plant, growing it as well as its medicinal properties.

**Conclusion** Academia has the opportunity to support cannabis career pathways by providing cannabis classes and/or programs, thus helping to create a qualified cannabis workforce. The research findings within this study can assist in the design and implementation of these programs.

# Table of Contents

List of Figures .....	xi
List of Tables .....	xii
Acknowledgments.....	xiii
Dedication.....	xiv
Chapter 1 – Introduction .....	1
Purpose of the Study .....	5
Problem Statement .....	6
Significance of the Study .....	9
Research Questions.....	9
Framework .....	10
Theoretical. ....	10
Conceptual. ....	11
Key Terms.....	11
Limitations and Delimitations.....	13
Summary.....	14
Chapter 2 – Literature Review .....	16
Cannabis.....	16
History of Cannabis .....	16
Medicinal Cannabis .....	18
Legalization of Cannabis .....	23
Academia and Cannabis.....	27
Canada and Cannabis.....	29
Workforce Development and Cannabis .....	31
Developing New Programs.....	33
Career Education.....	36
Summary.....	37
Chapter 3 – Methods.....	38
Participants.....	40
Sample.....	40
Instruments.....	41
Data collection .....	41
Tools .....	41
Research Design.....	43
Rationale .....	43
Protecting participants .....	44
Research Procedure.....	44
Data Analysis .....	46
Summary.....	47
Chapter 4 – Results .....	48
Sample.....	48



Data Collection .....	49
Data Analysis .....	50
Abridged Interviews.....	53
Interview 1 Angel. ....	53
Interview 2 Jody.....	58
Interview 3 Lennon.....	64
Interview 4 Quinn. ....	66
Interview 5 Riley.....	75
Interview 6 Jesse.....	83
Interview 7 Sage. ....	92
Interview 8 August.....	96
Summary of the Findings.....	105
Love and passion.....	105
Relationships.....	106
Professionalism.....	107
Compliance .....	108
Cultivation.....	109
Advocacy .....	111
Business acumen.....	112
Conclusion .....	113
Chapter 5 – Discussion .....	116
Research Questions.....	117
RQ 1.....	117
RQ 2.....	117
Implications for Practice.....	118
Recommendation 1 focus on love and passion.....	118
Recommendation 2 focus on relationships .....	118
Recommendation 3 focus on professionalism .....	119
Recommendation 4 focus on knowledge .....	119
Recommendation 5 focus on courses.....	120
Next Steps .....	120
Step 1 consult cannabis industry experts .....	121
Step 2 hold cannabis industry experts as lead.....	121
Step 3 offer training .....	122
Step 4 create mentoring opportunities .....	122
Research Credibility.....	122
Crystallization.....	123
Peer Review. ....	123
Member Checking.....	124
Extreme or Negative Case Analysis. ....	125
Research Limitations .....	125
Recommendations for Further Research.....	125
Conclusion .....	126
References.....	130
Appendix A – Institutional Review Board Approval .....	143

Appendix B – Research Study Overview ..... 144  
Appendix C – Letter to Interviewees ..... 145  
Appendix D – Interviewee Release Agreement..... 146  
Appendix E – Interviewee Thank You Letter..... 147

## **List of Figures**

Figure 1. The spread of cannabis throughout the world .....	18
---	----

## List of Tables

Table 1 Combining Themes with Skills and Traits .....	52
---	----

## **Acknowledgments**

Thank you to the Roueche Ed.D. program, specifically Kansas State University, Dr. Roueche, Dr. Mathis, Dr. O'Banion, and to Dr. Romali and Long Beach City College for offering and hosting the doctoral program. Thank you to Uduak Nkuk for encouraging me to pursue cannabis as a dissertation topic. Thank you to Dr. Boggs and Dr. Kovac for your continual guidance. Thank you to my fellow Long Beach City College cohort members along with Dr. Nevin. Thank you to the eight research interviewees for your candor as well as your love and passion for the cannabis plant. Thank you to Roger Montgomery and Maria Hileman for editing and your overall support; Sarah Kaip for the final edit. Thank you for the support from my friends and family including Lori O., Rollie, Lori A., Jane, Cathy, Todd, Tina, David, Rose, George, Dianne, Les, and Janet.

## **Dedication**

To cannabis and all the pioneers in the industry.

May humanity embrace you with love and passion.

## Chapter 1 – Introduction

Generational demographer and futurist Kenneth Gronbach stated in 2008 that "marijuana will be legal soon, it will be very heavily taxed, and it will be a bigger crop than wheat" (Gronbach, n.d., slide 108; Studio 88 Create, 2015). The recent growing acceptance of cannabis has created a green rush (Fuller, 2017). Consider a few of the news articles and video headlines listed on Consumer News and Business Channel (2018) under Food & Beverage | Marijuana in December 2018:

Legal Marijuana Industry had Banner Year in 2018; CEO of Boehner-backed cannabis company sees bill paving way for legalization being passed in 2019; Green growth to launch hostile bid for pot producer Aphria; Canopy growth CEO says farm bill passage is 'first step' toward US expansion; Top pot analyst says Corona maker of Constellation is a best stock idea for 2019; 2019 playbook: Marijuana.

ABC News (2018) described 2018 as “a 12-month champagne toast for the legal marijuana industry as the global market exploded, and cannabis pushed its way further into the financial and cultural mainstream” (para. 1).

Higher education is joining the movement too. The American Association of Community Colleges printed in its December 2018/January 2019 *Community College Journal* an article on niche workforce programs highlighting “Cannabis consultancy and testing” stating “degree and certificate offerings like cannabis cultivation ... are an important part of both their respective academic catalogs and local employers’ recruiting pipelines” (American Association of Community Colleges, 2019, p. 14).

Colorado Harvest Company is owned by Tim Cullen, a former high school biology teacher, and Ralph Morgan, a former medical device salesman. According to Morgan, their

annual revenues “grew 1,200 percent in 2014, another 400 percent last year [2015], and are now between 50 million dollars and 100 million dollars. Colorado Harvest Company has 80 employees, including five scientists with PhDs. And they are just getting started” (Hutchinson, n.d., para. 13). According to Pellechia (2018), the cannabis consumer is changing; spending on legal cannabis worldwide is expected to reach 57 billion dollars by 2027. The following are a few of Pellechia’s (2018) projected spending highlights:

- the recreational market will cover 67 percent of the spending;
- the medicinal market will cover 33 percent of the expenditure;
- the largest group of cannabis buyers will be in North America;
- North America’s market is projected to grow from 9.2 billion dollars in 2017 to 47.3 billion dollars in 2027.

According to Forrest (2018), by 2020, Canada's legal and recreational purchasing of cannabis will surpass hard liquor sales. Due to the recent global changes, the century-long prohibition and taboo status of marijuana, linked to the war on drugs spearheaded by the United States and its allies, are likely to dissolve (Newsweek, 2018). According to Deloitte's 2018 Cannabis Report (n.d.), today's cannabis consumer is young with a high school or college education, consumes cannabis several times a week, and is seen as a risk-taker. Legalization is bringing in an older, more conservative, middle-aged consumer with a university or graduate school education who consumes cannabis less than once a month.

Cannabis (*Cannabis sativa* L.) has a long history of therapeutic use in both traditional and Western medicine (Kalant, 2001), and it is possibly one of the oldest plants cultivated by man, as far back as 12,000 years ago (Russo 2007; Warf, 2014). The 1924 *Sajous's Analytic Cyclopedia of Practical Medicine* summarized the medical applications of cannabis into the



following three areas: sedative or hypnotic, analgesic, and other (Zuardi, 2006). Today, the scientific relevance for cannabis's therapeutic properties are being studied again with the focus on "D<sup>9</sup>-THC in conditions such as epilepsy, insomnia, vomiting, spasms, pain, glaucoma, asthma, inappetence, Tourette syndrome, and others" (Grotenhermen & Muller-Vahl, 2012; Zuardi, 2006, p. 156). The role of cannabis education in light of the opioid crisis is highlighted by Thiessen, Matthews, and Walsh (2017), who stated that educational opportunities related to cannabis therapeutic purposes ought to be made available,

To improve standard-of-care and to provide more exceptional treatment options for patients. Cannabis must be subject to the same risk-benefit analysis as other medications, and an essential aspect of that is appropriate training for the healthcare professionals tasked with authorizing its use. (p. 240)

Historically, cannabis has been on a teeter-totter with its status swinging from medicinal to criminal. An October 2018 Gallop survey revealed that 66 percent of Americans supported legalizing marijuana (Angell, 2018b). The National Academies of Sciences, Engineering and Medicine's Committee on the Health Effects of Cannabis and Cannabinoids (2017) identified numerous obstacles related to regulations and policies, funding limitations, and methodological challenges restricting cannabis and cannabinoid research. The medicalization of cannabis has provided the main reason for the current decriminalization and the precarious legal status of the product.

With the growing legalization of cannabis, science can now offer guidance to the industry. However, according to Professor Youbin Zheng of the University of Guelph, before this can occur, those in the industry need to be professionally trained (University of Guelph, 2017). The most critical feature identified for cannabis dispensaries is having staff with robust

product knowledge (Deloitte, 2018). According to Vivian Kinnaird, Niagara College's Dean of Business, Hospitality, and Environment:

This isn't a program for people who are just thinking about what am I going to do at college? It is for people who know something about plant science and understand the principles and fundamentals scientifically of what goes on in a growing environment so we can start the program at a higher level. (Dunne, 2018, para. 12)

Elizabeth Foley, who recently completed an undergraduate honors degree in biology, sees the cannabis industry as "the start of something very big." Regarding her job prospects, Foley stated, "All the licensed producers will know that I'm a professional, skilled worker who knows what she's going to be doing when I get in the door of their facility" (Dunne, 2018, para. 16).

Having legalized cannabis in June 2018, Canada has a strong desire to promote innovation and entrepreneurship across the country, showing the world that a "well-regulated, well-run, highly professional cannabis industry can be a positive contributor to a national economy" (Deloitte, n.d., p. 25). The fast-paced growth of the cannabis industry has educational institutions rushing to respond at all levels. New Brunswick, in the fall of 2017, began a 12-week community college program for medical cannabis cultivation technicians. Olds College in Alberta started offering online courses in cannabis production in the spring of 2018 (Dunne, 2018). Professor Youbin Zheng stated that the industry needs more academic types: "Growing marijuana has been illegal for so many years that there has been hardly any scientific research up until this point on how to produce this crop" (Dunne, 2018, para. 27). "There has been no science guiding this industry" (University of Guelph, 2017, para. 2). "All these growers, they need technical support, scientific research, to help them," observed Zheng. "I frequently get phone calls asking, 'Youbin, do you have any graduate students? We want them'" (Dunne, 2018, para.

27).

Professor Shad Ewart, Chair and Assistant Professor of Anne Arundel Community College's Business Management School of Business and Law, stated that the cannabis industry "absolutely wants qualified workers to work for them ..." (Pacella, 2018, para. 3) and that currently there is a training gap to meet this growing need. After working for a decade as Dean of Sonoma State University's School of Business and Economics, William Silver accepted the position of Chief Executive Officer at CannaCraft Inc., a Santa Rosa-based cannabis-manufacturing firm. As an educator on entrepreneurship and innovation, Silver brings connections and credibility to the cannabis industry as well as to CannaCraft (Swindell, 2018). Cannabis is legal recreationally in 11 states and medically in 33 states (Berke & Gould, 2019). According to Taylor (2017), "As more states move to legalize the growing and manufacturing of marijuana, there's a shortage of workers who have the right skills and knowledge" (para. 1). Taylor (2017) continued, "In an industry that is expected to grow faster than manufacturing, companies must be willing to develop standards of training and management that will set the foundation for future generations ..." (para. 6).

### **Purpose of the Study**

The purpose of this study is to examine the workforce needs of the cannabis industry from the perspective of cannabis industry experts. The projected income from cannabis reflects the growth within this sector and the need for a professionally-trained workforce. As states legalize cannabis for medicinal and recreational reasons, the need for a trained workforce will increase. According to Bein (2018), colleges and cannabis companies are working together to create cannabis training programs to fill the urgent need for trained workers for the cannabis

industry. Understanding the workforce development needs of the cannabis industry would be helpful for institutions that provide or plan to offer this educational pathway.

### **Problem Statement**

A highly-trained workforce is necessary to support the growing medicinal and recreational cannabis industry. Cannabis's economic yield and career opportunities from 2017 to 2021 are anticipated to grow 150 percent from 16 billion to 40 billion dollars and from 100,000 to 414,000 jobs (BDS Analytics 2018; Borchardt 2017; Moodly 2018). Post-secondary education has the opportunity to create new majors for the growing cannabis industry (Moody, 2018).

The Institute for the Future predicted that “eighty-five percent of the jobs that today’s students will do in 2030 don’t exist yet” (Frazee, 2018, para. 1). How higher education can support cannabis career pathways fits into this prediction. Ton-Quinlivan (2018), Executive Vice Chancellor of Workforce and Digital Futures of California Community Colleges, stated the status quo is no longer acceptable for higher education institutions. Decades of tradition and campus interests that favor business as usual are challenging to overcome, but for colleges and students to thrive in the 21<sup>st</sup>-century economy behaviors need to change. To meet the country’s workforce needs, colleges ought to think differently about these issues. Ton-Quinlivan (2018) highlighted the following six considerations:

1. Regional coalitions best solve workforce gaps. A successful student journey includes coordination and collaboration between and through numerous organizations.
2. Training and education is a "booster shot ... not a one-time inoculation" (para. 12).
3. Partnering with employers can help programs stay current. Students look to colleges to provide "career-ready education" and for employers to confirm they are on the "right path," which can only happen when employers and educators are communicating and

collaborating (para. 15). Colleges need to understand what employees value and align their curriculum with what employers need. Higher education needs to improve workforce outcomes for students.

4. Upon certification or graduation, students need assistance beyond what the career center and resume assistance can provide. Models of internship programs, work-study co-ops, and apprenticeships can offer the student work experience that may assist with job placement.

5. The personalized educational experience is going to become the norm.

6. Students will be looking for courses that are pertinent to them, support services that are specific to their circumstance, and classes at times and formats that meet their schedule.

Ton-Quinlivan's (2018) six considerations provide concrete steps to shift traditional program design to one that will meet the ever-changing needs and desires of a fluid workforce.

Using Ton-Quinlivan's (2018) six considerations, cannabis organizations can be "booster shot programs" designed to invite enrollment of cannabis professionals who have been in the industry for years. Higher education can partner with cannabis businesses and focus on personalizing the program and can closely collaborate with industry to make the step from college to the worksite as seamless as possible.

The literature explores concerns about the role of higher education in economic development. David Blunkett wrote in 2005 that universities that do not grow with the economy would not survive (Madichie & Gbadamosi, 2017). According to Hultman and Hill (2011), community colleges are sometimes slow to respond to the needs of the local economy. Boggs and McPhail (2016) stated that local economies are driving community colleges to redesign their curricula. People will have to prepare for jobs that do not yet exist, which can be accomplished

by rethinking the fundamentals, blending learning and experience, and transforming the process of creating programs (Frazee, 2018; Nichoff, 2018). Manning (2017) suggested the nature of faculty and department structure has limited higher education in adapting quickly to market-driven curricula changes and student needs. “There is a new and overwhelming need for qualified and trained professionals in the booming cannabis production industry” (Niagara College Canada, n.d., n.p.). In September 2018, Niagara College Canada, in partnership with Canopy Growth Corporation, launched its first Commercial Cannabis Production graduate certificate program, a one-year, experienced-based credentialed program.

Historically, meeting the needs of the workforce has been primarily the responsibility of community colleges. Rhonda Tracy, former Chancellor of Kentucky Community and Technical College, stated, “Community colleges play a critical role in supporting local businesses and the regional economy, and must collaborate with industry as well as other stakeholders in the local educational environment to best serve the needs of their communities” (Tracy, 2018, para. 2 & picture caption). Legislators, business and industry, employers, funders, and the general public are examining the capability and relevance of the role of higher education in training. Tracy (2018, subtitles) came up with three steps community colleges play in supporting the workforce:

1. "Agreeing on basic assumptions about the workforce," with the workforce being the goal and product for all students, programs, and institutions.
2. "Increasing Positive Impact with the Workforce” by focusing on implementing best practices of inquiry, communication, and sharing. Inquire by asking meaningful questions, use everyday language and terms when communicating, and share with all stakeholders, materials, and job placement opportunities.
3. "Reviewing, Refining, and Responding to Increase Relevancy." Those in higher

education need to respond to the changes within the industry by reviewing and refining programs offered.

### **Significance of the Study**

This study will contribute to the understanding of the cannabis industry's workforce needs, as well as insight into meeting these needs and determining who is best suited for this task: higher education, the private sector, or an unknown option. An outcome of this study will guide the cannabis workforce. Shannon Vetto, a cannabis industry consultant, said, "Educating people about the science of cannabis and the legal issues surrounding cannabis allows people to enter the industry in a more legitimate way, equipped with real data and real knowledge, not myths ..." (Weed, para. 5, 2017). Within high-growth industries, there exists a need to close the skills gap,

Half of all science, technology, engineering, and math jobs call for workers with less than a bachelor's degree; health care occupations are projected to grow 18 percent by 2026; 3 million workers will be needed for the nation's infrastructure in the next decade; almost half of the energy workforce may need to be replaced by 2024, and demand for solar and wind energy technicians will double; more than 80 percent of manufacturers report that talent shortages will impact their ability to meet customer demand. (Association for Career & Technical Education, n.d., para. 4)

Higher education has the potential to close the exploding cannabis industry skills gap.

### **Research Questions**

1. What are the cannabis industry's workforce needs that post-secondary education could build around to train professional cannabis representatives? Question 1 will help to determine, from the cannabis industry's point of view, the educational needs (why, what, and how) for

future professional cannabis representatives.

2. What challenges do cannabis industry representatives see in developing a cannabis educational workforce program, and what recommendations do they suggest for overcoming these challenges? Question 2 will provide the pros and cons of creating a cannabis educational program.

### **Framework**

**Theoretical.** The theoretical lens used was transcendental phenomenology, while the conceptual lens used was interpretative phenomenological analysis and workforce development theory. Transcendental phenomenology is known as pure, descriptive, Husserlian phenomenology, or just phenomenology (Flipp, 2014). It focuses on the co-researchers' meaning of a lived experience in regard to a concept or phenomenon, in this case, the workforce needs of the growing cannabis industry. The purpose of this methodology is to describe the essence and nature of experiencing a phenomenon, such as, what is your experience of professionally working in the cannabis industry which is in need of a trained workforce (Flipp, 2014). Phenomenology research focuses on one's lived experience (Lavery, 2003) and is beneficial when examining delicate content or studying areas in which little is known (Donalek, 2004). Heidegger's interpretive phenomenological analysis is "used when the research question asks for the meaning of the phenomenon, and the researcher does not bracket their biases and prior engagement with the question under study" (Reiners, 2012, p. 2). Heidegger asserted, "... that the depth of involvement of researchers would confirm credibility" (Reiners, 2012, p. 3). The researcher will identify themes within the study and incorporate the items into a meaningful description; the ultimate goal of the research "is the exhaustive, essential description of the phenomenon under study" (Donalek, 2004, p. 516). Themes that have emerged from the analysis



and supporting selected quotes from participants allow the reader to follow the researcher's process of discovery. The validity of the research is supported by a presentation of the decision path in the research process (Donalek, 2004, p. 517).

**Conceptual.** There are several forces motivating organizations to find more successful ways to manage their workforces. Some of these forces include: "global competition, aging population, global talent wars, demand for flexible working, relentless technological innovation, and the demand for innovation, sophistication, customization, shorter times to market, round the clock servicing, and round the globe servicing" (Ladimeji, 2013, para. 1). Workforce development theory focuses on a unified set of solutions to meet employment desires (Bays, 2016), as well as the capacity and capability of the workforce (IGI Global, 2017). The cannabis industry is a fast-paced growing industry, the following is a list of cannabis terms that are used in this dissertation.

### **Key Terms**

**Ancillary sector experts or non-touch plant experts** – the segment of the industry in which industry professionals do not touch the cannabis plant directly.

**Cannabinoids** – Cannabinoids are the chemical compounds (e.g., CBD and THC) secreted by the cannabis plant (stock, seeds, flower). These compounds provide a reprieve from a variety of symptoms such as pain, nausea, and anxiety (CannaInsider, n.d.-b). They work by mimicking compounds our bodies naturally produce called endocannabinoids (Chambers, 2013).

**Cannabidiol** – Cannabidiol is abbreviated CBD and is one of at least 100 plus cannabinoids found in cannabis. CBD can be effective for treating pain, inflammation, and anxiety without any psychoactive effect associated with tetrahydrocannabinol (THC; Chambers, 2013).

**Cannabis** – Cannabis is a plant genus of three flowering plants: *Cannabis sativa*, *cannabis indica*, and *cannabis ruderalis*. *Cannabis sativa* and *cannabis indica* have numerous medical and recreational uses. Cannabis grows almost anywhere but is native to Asia and has a long history of being cultivated for the production of hemp and other medicinal reasons. Cannabis is also known as marijuana and weed (Chambers, 2013). Hemp and marijuana come from the species *cannabis sativa*. The psychoactive content of hemp is .3 percent, while marijuana is 10 percent (Cadena, 2018).

**CBD** – see cannabidiol.

**Edibles** – Edibles are foods infused with cannabis extract (Chambers, 2013).

**Endocannabinoids** – Endocannabinoids are molecules that bind to and trigger cannabinoid receptors. Humans naturally produce endocannabinoids from fat-like molecules; the two major endocannabinoids are anandamide and 2-AG (Chambers, 2013).

**Endocannabinoid System** – The endocannabinoid system was discovered in the early 1990s and is responsible for sustaining the body's homeostasis; the endocrine system is housed within the endocannabinoid system (CannaInsider, n.d.-a; Pagott, Marsicano, Cota, Lutz & Pasquali, 2006). Three to 15 percent of medical schools are currently teaching about this system (Clary, 2003; Hempworx CBD Products and Smart Supplements, 2018; SC Compassionate Care Alliance, 2017).

**Gray (Grey) Market** – According to Wikileaf (2019), the gray market is a term applied to cannabis businesses that possess some or none of the required certifications required to sell cannabis legally. The gray market is a black market business that appears to be a legal operation.

**Shake** – Small bits of cannabis flower that break off of larger buds usually as a result of

handling the plant.

**Tetrahydrocannabinol** – Tetrahydrocannabinol, abbreviated TCH. THC is the psychoactive part of the plant known as delta-9-tetracannabinol, written as D<sup>9</sup>-THC (Chambers 2013).

**THC** – see tetrahydrocannabinol.

### **Limitations and Delimitations**

The sample size may not have been large enough to understand the challenges specifically related to workforce development. Furthermore, the novelty of the cannabis industry contributes to potential workforce development challenges yet to be discovered. The sample profile could be limited based on the businesses that were able to transition from the illicit to the legal cannabis industry and the reduced number of industry start ups. The research method may have inherent limitations being focused on discovering the essence of the study. The time available to conduct the study may have limited how in-depth the discovery was. The analysis and interpretation of the qualitative data can be problematic regarding coding the data accurately. The researcher may have been ineffective in providing the in-depth interviews and limited in holding engagement of the interviewees.

The bias of purposive sampling is inherent when identifying the members of the purposive sample (Devault, 2019); snowball sampling may not be ideal. Creswell (2015) stated “...it is important to acknowledge that our values and beliefs shape our orientation to research, how we gather data, the biases we bring to research, and whether we see our investigations as more emerging or fixed” (p. 8). The researcher’s values and beliefs may bring innate biases to the research. Moustakas (1994) stated, "The challenge is to describe things as they are, to

understand meanings and essences in the light of intuition and self-reflection." The researcher may not meet the challenge of describing things as they are (p. 2).

Interest in the workforce needs of the cannabis industry is three-fold: (a) the cannabis industry's growing need for trained professionals, (b) the demand to expand the understanding of the medicinal benefits of the cannabis plant, and (c) the desire for academia to boost enrollment, retention, and completion rates in general as well as in cannabis programs.

## **Summary**

There is a training gap in the growing professional cannabis industry. A highly-trained workforce is necessary to support the new medicinal and recreational aspects of the cannabis industry. Some academics are putting cannabis programming on hold until the United States federal government modifies the current status of cannabis as a Schedule I drug. As states legalize cannabis use, medicinal and recreational, the need for a trained workforce will increase. Understanding the workforce development needs of the cannabis industry will be helpful for institutions that are providing or plan to offer this educational track. Preparing for jobs that do not exist yet can be accomplished by rethinking the fundamentals and by blending learning with experience (Frazee, 2018; Niehoff, 2018).

This dissertation contains five chapters: Chapter 1 includes the introduction, purpose of the study, problem statement, research questions, framework, key terms, limitations, and delimitations. Chapter 2 consists of a review of the literature that relates to cannabis, program development, and career education. Chapter 3 provides the methodology and procedures used to gather the data. Chapter 4 contains the interview findings, while chapter 5 includes a summary of the findings, implications of the findings, recommendations for further research, and conclusion.

The literature review will cover cannabis and the development of new programs. The

topic of cannabis includes the following: the history of cannabis, medicinal cannabis, legalization of cannabis, academia and cannabis, Canada and cannabis, and workforce development. Career education will be within developing new programs. The theoretical framework of Heidegger's interpretative phenomenology and the conceptual framework of workforce development provide the foundation of the research conducted.

## Chapter 2 – Literature Review

### Cannabis

Humans have been interacting with cannabis for hundreds of years. A century-long prohibition and the taboo status of cannabis, linked to the war on drugs spearheaded by the United States and its allies, are likely to dissolve (Ghehioeche & Zemouli, 2016; Newsweek, 2018; Simpson, 2015). Today, the popularity of cannabis for medicinal and recreational purposes is expanding on a worldwide stage. Almost daily, there is news highlighting dynamic changes within the cannabis industry. In writing about the legalization of cannabis, Angell (2018c) listed marijuana's top ten victories for 2018: (a) lawmakers passed marijuana legalization bills; (b) three red states legalized medical cannabis; (c) first midwestern state legalized marijuana; (d) pro-legalization candidates won governors' races; (e) members of Congress acted to fix the federal and state marijuana gap; (f) longtime prohibitionists flipped to support marijuana reform; (g) President Trump voiced support for a marijuana bill; (h) hemp was legalized; (i) Canada legalized marijuana; and (j) the Mexican presidential administration backed legalizing cannabis.

The following literature review focuses on two areas: cannabis and new program development. The section on cannabis includes six subcategories: history, medicine, legalization, academia, Canada, and workforce development. The section on developing new programs is focused on Career Technical Education.

### History of Cannabis

Cannabis (*Cannabis sativa* L.) has a long history of therapeutic use in both traditional and Western medicine (Kalant, 2001), with evidence that dates back to 12,000 years ago, suggesting it is possibly one of the oldest plants cultivated by humans (Russo 2007; Warf, 2014). Since the 20<sup>th</sup> century, banning cannabis throughout the world has occurred; however, pre-1900

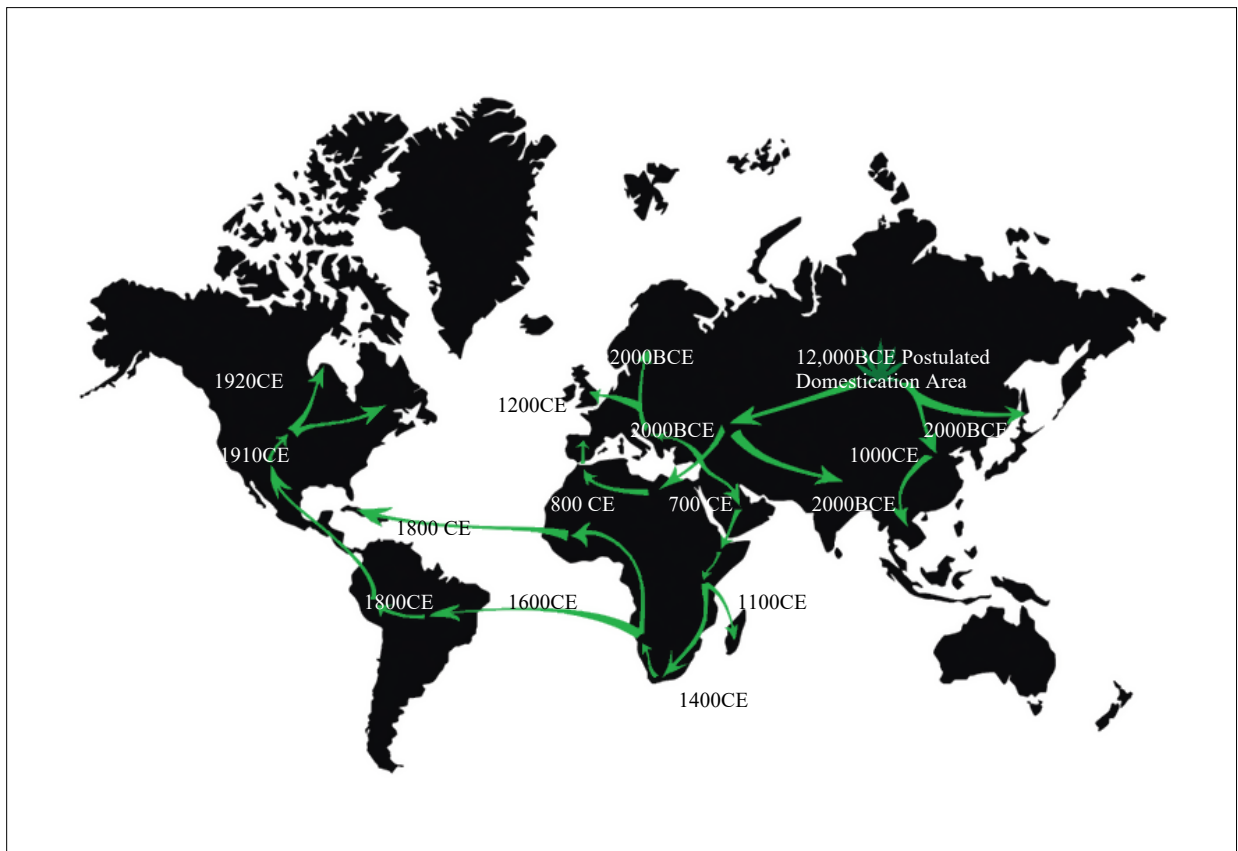
literature reveals a rich history of cannabis consumption (Goodman, Lovejoy, & Sherratt, 2007; Li, 1973; Newsweek, 2018).

Over the past 500 years, the availability, potency, and popularity of cannabis have increased. Figure 1 offers an image of Sava's (2016) and Warf's (2014) cannabis timeline. Burial mounds in Siberia dating back to 3,000 BCE contained burned cannabis seeds. Cannabis was carried from the Middle East to China, Korea, and Japan around 2000 BCE; the tomb of Ramses II contained cannabis pollen and cannabinoids. During the 7<sup>th</sup> century, the plant was transported from India to Tibet and Nepal; Sanskrit Vedic poems describe cannabis sativa. After arriving in the Middle East between 2000 and 1400 CE, cannabis was brought to Russia and Ukraine, then Eastern Europe and Germany, and then to Britain in the 5<sup>th</sup> century CE. Medieval Arab doctors saw cannabis as a sacred medicine. Cannabis seeds in viking ships dated back to the mid-9<sup>th</sup> century. During the 16<sup>th</sup> century, cannabis arrived in South America; it then was passed into North America in the 19<sup>th</sup> century.

For 32 years, from 1930 to 1962, Harry Anslinger served as the first commissioner of the Federal Bureau of Narcotics. Anslinger was the principal figure in the war against cannabis, denying clinical evidence that determined marijuana did not lead to violent behavior or more addictive drugs (Reed, n.d.; Warf, 2014). Instead, Anslinger stated it was a "national menace" (Schaffer Library of Drug Policy, n.d.), and he associated cannabis with jazz, which he despised because of the dominance of African-American musicians. The 1936 movie *Reefer Madness*, produced by George Hirliman, portrayed cannabis destroying the lives of youth, leading to murder, rape, and criminal insanity, and presenting it as more dangerous than heroin or opium.

During the 1960s, there was increased use of cannabis among low-income minority populations as well as white, middle class, and college-educated youth (Warf, 2014). Eleven

states decriminalized marijuana in the 1970s, yet President Nixon rejected federal guidance to decriminalize it. Today, cannabis remains a Schedule I drug, meaning it has a high probability of being abused, no acknowledged medical uses, and no safe level of intake. However, there are no documented cases of individuals overdosing on cannabis. It is currently being studied for its ability to reduce opioid overdose deaths (Marx, 2018; Warf, 2014; Wiese & Wilson-Poe, 2018). Contrast these findings to 480,000 Americans dying from tobacco in 2014 and approximately 88,000 from alcohol between 2006–2010 (Centers for Disease Control, n.d.; National Institute on Alcohol, 2018).



*Figure 1.* The spread of cannabis throughout the world. Map from Sava (2016); dates on the map from Warf (2014).

### **Medicinal Cannabis**

The world’s oldest pharmacopeia, dating back to 2,700 BCE, is the Shen-nung Pen-ts’ao



Ching, which reveals that ancient Chinese used cannabis as medicine for the following conditions: rheumatic pain, constipation, female reproductive disorders, malaria, and others (Gumbiner, 2011; Zuardi, 2006). Cannabis was also used to anesthetize Chinese surgical patients from 110 – 207 CE. India has used marijuana since around 1000 BCE for religious, recreational, and medical conditions such as analgesic, anticonvulsant, hypnotic, tranquilizer, anesthetic, anti-inflammatory, antibiotic, anti-parasite, antispasmodic, appetite stimulant, diuretic, aphrodisiac, antitussive, and expectorant (Kuddus, Ginawi, & Al-Hazimi, 2013; Zuardi, 2006). Muslim texts reveal cannabis was used as a diuretic, an anti-flatulent, and for resolving epilepsy, while Africans utilized cannabis to address snake bites, childbirth, malaria, fever, blood poisoning, anthrax, asthma, and dysentery (Nahas, 1982; Zuardi, 2006).

During the early to mid-1800's William B. O'Shaughnessy, an Irish physician, wrote of successful human experiments using cannabis for rheumatism, convulsions, and muscle spasms. Jacques-Joseph Moreau, a French psychiatrist, published a book in 1845 that reported the acute effects of marijuana (Subramanian, 2017; Zuardi, 2006). In 1860, the Ohio State Medical Society organized the first clinical cannabis conference in the United States, while over 100 scientific articles published in Europe and the United States in the second half of the 19<sup>th</sup> century revealed the therapeutic value of cannabis (Byrne, 2014; Mathre, 1977; Zuardi, 2006). The 1924 *Sajous's Analytic Cyclopedia of Practical Medicine* summarized the medical applications of cannabis into the following three areas: sedative or hypnotic, analgesic, and other.

1. Sedative or hypnotic: insomnia, senile insomnia, melancholia, mania, delirium tremens, chorea, tetanus, rabies, hay fever, bronchitis, pulmonary tuberculosis, cough, paralysis agitans, exophthalmic goiter, spasm of the bladder, and gonorrhoea.
2. Analgesic: headaches, migraine, eye-strain, menopause, brain tumors, tic douloureux,

neuralgia, gastric ulcer, gastralgia (indigestion), tabes, multiple neuritis, pain not due to lesions, uterine disturbances, dysmenorrhea, chronic inflammation, menorrhagia, impending abortion, postpartum hemorrhage, acute rheumatism, eczema, senile pruritus, tingling, formication and numbness of gout, and for relief of dental pain.

3. Other: to improve appetite and digestion, for the 'pronounced anorexia following exhausting diseases,' gastric neuroses, dyspepsia, diarrhea, dysentery, cholera, nephritis, hematuria, diabetes mellitus, cardiac palpitation, vertigo, sexual atony in the female, and impotence in the male.

(Committee on the Judiciary, 1975, p. 517; Zuardi, 2006, pp. 155-156)

Medical use of cannabis peaked in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries. Cannabis extracts were marketed by various laboratories including: Merck (Germany), Burroughs-Wellcome (England), Bristol-Meyers Squibb (United States), Parke-Davis (United States), and Eli Lilly (United States) (Borchardt, 2015; United States Securities and Exchange Commission, 2018; Zuardi, 2006). However, cannabis research and use in Western medicine decreased early in the 20<sup>th</sup> century for a number of reasons, including the variation in the plant's active ingredient not yet isolated, pharmaceutical medications entering the marketplace, and limited research due to the mounting legal restrictions surrounding the plant (Frontline, n.d.; Zuardi, 2006). Today, the scientific relevance for cannabis's therapeutic properties are being studied again with the focus on "D<sup>9</sup>-THC in conditions such as epilepsy, insomnia, vomits, spasms, pain, glaucoma, asthma, inappetence, Tourette syndrome, and others" (Grotenhermen & Muller-Vahl, 2012; Zuardi, 2006, p. 156). D<sup>9</sup>-THC is being studied regarding its potential to help as an "anti-emetic, stimulant of appetite, analgesic, and in symptoms of multiple sclerosis" (Zuardi, 2006, p. 156). Cannabidiol (CBD) has growing evidence to emolliate epilepsy, insomnia, anxiety, inflammations, brain damage, and psychoses (Kubala, 2018; Zuardi, 2006).

A word of caution is warranted, as studies suggest that early-onset cannabis use can induce cognitive deficits, a risk factor for the onset of psychosis among vulnerable youths (Castellanos-Ryan et al., 2017; Zuardi, 2006). After legalizing cannabis,

... Colorado found adolescent and young adult users are at higher risk of developing psychotic symptoms or disorders in adulthood ... In Canada, those advocating legalization argue public health officials have a better chance of reducing these ill effects by legalizing and regulating marijuana than by keeping it in the illicit market. (Southwick, 2016, para. 23-24)

Although Zuardi's findings are from 2006, a report from the National Academies of Sciences Engineering Medicine (2017) found

...conclusive evidence regarding the short- and long-term health effect of cannabis use remains elusive and that ... no accepted standards for the safe use or appropriate doses are available to help guide individuals as they make choices regarding the issues of if, when, where, and how to use cannabis safely and, regarding therapeutic uses, effectively. (p. 25)

In 2005, an international pharmaceutical laboratory in Canada received approval to advertise a medication composed of D<sup>9</sup>-THC and CBD for pain relief in multiple sclerosis patients. A greater understanding of the human endogenous cannabinoid system, also known as the endocannabinoid system, is leading to scientifically proven, effective treatments and safe use of CBD (Fine & Rosenfeld, 2013; Zuardi, 2006).

The findings from the National Academies of Sciences, Engineering, and Medicine support the

... need for greater educational opportunities on cannabis for therapeutic purposes for

clinicians engaged in pain management to ensure that lack of knowledge is not a barrier to accessing a potentially effective therapy with a safety profile that is superior to opioids. (Thiessen, Matthews, & Walsh, 2017, p. 23)

In 2018, the U.S. Food and Drug Administration approved four cannabis-based drugs: Epidiolex, dronabinol, nabilone, and Syndros. Epidiolex is derived from cannabidiol or CBD for the treatment of epileptic seizures. The synthetic cannabinoids dronabinol and nabilone are used for the treatment of nausea and vomiting associated with cancer chemotherapy in people who have not responded well to other medications. Synthetic dronabinol is used for the treatment of loss of appetite and weight loss in people with AIDS. Syndros, a liquid form of dronabinol, was approved in 2016 (National Center for Complementary and Integrative Health, 2018).

Prior to 1937, cannabis had enjoyed a 5000-year history as a therapeutic agent across many cultures (Burnett & Reiman, 2014, para. 11). Regarding its perceived efficacy, cannabis is being used for a wider variety of conditions than traditionally accepted by the scientific community and is reported to be effective for some symptoms. The patient-reported outcomes can be useful for informing the development of public policy until such time that sufficient controlled trials can be conducted to validate specific claims. (Sexton, Cuttler, Finnell, & Mischley, 2016, pp. 136-137)

Donald Abrams, a University of California San Francisco integrative oncologist, is one of a few researchers within the United States who performs government-approved research on cannabis for human trials. Abrams stated, "Of course cannabis has medical uses ... It's pretty clear from anthropological and archaeological evidence that cannabis has been used as a medicine for thousands of years—and it was a medicine in the U.S. until 1942" (Downs, 2016, para. 4). Abrams added, "I'm an oncologist and I say all the time, not a day goes by when I'm

not recommending cannabis to patients for nausea, loss of appetite, pains, insomnia, and depression—it works” (Downs, 2016, para. 4). “Experts say listing cannabis among the world’s deadliest drugs ignores decades of scientific and medical data. But attempts to delist it have met with decades of bureaucratic inertia and political distortion” (Downs, 2016).

### **Legalization of Cannabis**

Through an executive order on July 7, 1973, President Nixon created the Drug Enforcement Agency. This executive order also gave the attorney general, John Mitchell, oversight of anti-drug efforts. Mitchell created a “schedule” of drugs as part of the 1970 Controlled Substance Act ... [and] “included marijuana on the list of drugs with no medical benefit and a high probability of abuse and addiction” (Dispensaries.com, 2017, para. 9). A debate regarding cannabis's medicinal possibilities was to occur before its prohibition implemented with President Franklin D. Roosevelt’s passage of the Marijuana Tax Act of 1937 (Countable, 2017). However, Nixon was tape-recorded on May 12, 1971, voicing strong opposition to the legalization of marijuana, asking for a “strong statement on marijuana” against legalization. He said, “By God, we are going to hit the marijuana thing, and I want to hit it right square in the puss...I want to hit it, against legalization and all that sort of thing” (Common Sense for Drug Policy, n.d., para. 8).

The inability to move away from "... a 45-year old War on Drugs and a 78-year-old marijuana prohibition..." has led to unclear policymaking in California (Gomez & Gomez-Lizarraga, 2018; Oleinic, 2018; Polson, 2016, p. 400). The government’s answer “is to permit and monitor marijuana’s uneven decriminalization across the nation to decelerate the War on Drugs and allow a new social equilibrium to emerge around marijuana” (Polson, 2016, p. 400). Historically, cannabis status has been on a teeter-totter swinging from medicinal to criminal. The

medicalization of cannabis has provided the main reason for the current decriminalization and challenged legal status of the product, revealing “an indecision around an open-endedness to the systems of punishment, incarceration, and domestic warfare that have typified response to crime and drugs since Anslinger” (Editors, 2018; Polson, 2016, p. 415). According to the United States Securities and Exchange Commission (2018), cannabis is a Schedule I drug.

Schedule I drugs, substances, or chemicals are defined as drugs with currently no accepted medical use and a high potential for abuse. Some examples of Schedule I drugs are: heroin, lysergic acid diethylamide (LSD), marijuana (cannabis), 3,4-methylenedioxymethamphetamine (ecstasy), methaqualone, and peyote. Very few Americans know of or understand the DEA’s drug-ranking process, and a review of cannabis's history as a Schedule I drug shows that the label is highly controversial and dubious. (Downs, 2016, para. 2)

Van Ours (2012) found, “Those who are in favor of legalization tend to ignore the negative health effects of cannabis use. Those who are against legalization ignore the fact that legal substances such as alcohol and tobacco also have bad health effects” (para. 1). The distinctive features of the state of Washington’s legalization of cannabis was its 2012 initiative, I-502 Evaluation, and Benefit-Cost Analysis. The Washington State Institute for Public Policy issued reports to the legislature in 2015 and 2017 and is scheduled to issue reports in 2022 and 2032. The Washington State Institute for Public Policy’s focus will be to contrast the legalization of cannabis with prohibition in the following areas: public health; public safety; rates of youth and adult-use, maladaptive use and use disorders; economic impacts; criminal justice impacts; and state and local agency administrative costs and revenues (Roffman, 2016). The goal of this initiative is to have a public health approach to replace prohibition of cannabis. Components of

this approach include science-based cannabis education, youth-focused prevention, and the treatment of cannabis addiction, as well as research. The Washington State Institute for Public Policy 2017 report found that

cannabis abuse treatment admission were not affected by I-502 enactment. ...the number of legal cannabis sales generally had no effect on outcomes. One exception was the adults 21 and older in counties with more retail cannabis sales were more likely to report using cannabis in the past 30 days and to report using it heavily. (Washington State Institute for Public Policy, 2017, p. 1)

Polson (2016) and NIDA (2018) used the visual of a gateway to illustrate cannabis production, governance, and the drug war to conclude "... that marijuana's gateway itself is being reconstructed" (p. 417). Furthermore, Harvard trained Dr. Uma Dhanabalan found that marijuana is not a gateway drug, but rather an off-ramp for opioids (SC Compassionate Care Alliance, 2017). The "Department of Justice has been ordered by Congress to back down from prosecuting marijuana cases in states that have legalized or medicalized it" (Jones, 2018; Polson, 2016, p. 409). Today, federal prosecutors are focused less on cannabis prohibition in states with legalized cannabis that have begun to successfully govern, enforce, and regulate the cultivation, distribution, sale, and possession of marijuana (Free Library, 2017). Regarding edibles, the National Environmental Health Association (2018) is focusing on food safety programs and developing new partnerships, resources, tools, and educational opportunities. According to the editors of *Scientific American*, "It is time to stop treating marijuana like a deadly drug when science and public opinion agree that it is relatively safe for adult recreational use" (Editors, 2018, para. 7). A *Forbes* article entitled, "Marijuana won the midterm elections," is telling for the future of cannabis; according to Angell (2018b), "... last month, a national Gallup survey

found 66 percent of Americans support legalizing marijuana, including a clear majority of Republicans” (para. 19). With growing legalization of cannabis medicinally and recreationally within the U.S., “Cannabis reform has bipartisan support in the House and Senate” with Congressman Jim McGovern as “gatekeeper for federal legislation, it’s very likely that 2019 could see some federal cannabis reform victories” (Green, 2018, para. 7).

The legalization and ensuing popularity of cannabis is changing the industry’s consumer base. Traditionally, the cannabis consumer has been a young risk-taker with a high school or college education, partaking in cannabis use several times a week. Legalization of cannabis is bringing in an older, more conservative, middle-aged consumer with a university or graduate school education, who consumes less than once a month (Deloitte, n.d.). According to Shannon Vetto, opportunities in the cannabis industry are “massive.” “This is a real business, and we want to fill it with the best-educated people we can” (Weed, 2017, para. 10). The most critical feature identified for cannabis dispensaries is having staff with robust product knowledge (Deloitte, n.d.; Niagara College Canada, n.d., n.p.).

According to Flaccus (2018), a buzz about legal marijuana has spread across the globe in 2018 and will continue into 2019:

Liberal California became the largest legal U.S. marketplace, conservative Utah and Oklahoma embraced medical marijuana, and the U.S. East Coast got its first commercial pot shops. Canada ushered in broad legalization, and Mexico's Supreme Court set the stage for that country to follow.

U.S. drug regulators approved the first marijuana-based pharmaceutical to treat kids with a form of epilepsy, and billions of investment dollars poured into cannabis companies. Even main street brands like Coca-Cola said they are considering joining the



party.

Luxembourg is poised to become the first European country to legalize recreational marijuana, and South Africa is moving in that direction. Israel's parliament approved a law allowing exports of medical marijuana. Thailand legalized the medicinal use of marijuana, and other southeastern Asian countries may follow South Korea's lead in legalizing cannabidiol, or CBD. (para. 2, 3, 6)

### **Academia and Cannabis**

After working for a decade as Dean of Sonoma State University's School of Business and Economics, William Silver accepted the position of Chief Executive Officer at CannaCraft Inc., a Santa Rosa-based cannabis-manufacturing firm. As an educator on entrepreneurship and innovation, Silver brought connections and credibility to the cannabis industry, as well as to CannaCraft. Silver's understanding of the wine industry is guiding him, and he sees the complementary nature of these two industries, especially in the area of sustainability. According to Silver (Swindell, 2018), the academic research in the wine industry has led many wineries to realize, "The wine industry isn't a product industry, it's an experience industry" (para. 26). Academia can pursue cannabis in the same light. Moody (2018) discussed the opportunity colleges have in developing new majors for the cannabis industry that is expected to grow to a 40 billion dollars industry supporting 414,000 jobs in the United States by 2021, a 150 percent growth from 2017.

According to Charles Pollack, MD, director of the Jefferson Institute of Emerging Health Professions and The Lambert Center,

... healthcare providers, researchers, and industry professionals have found few credible, evidence-based educational options to learn about the health benefits and risks of

cannabis in appropriate clinical settings to treat chronic pain and other conditions such as multiple sclerosis, spasticity or epileptic seizures. Their response to this was to launch ... the nation's only university-based cannabis science graduate certificate programs to prepare healthcare and industry professionals for the fast-growing field. (Thomas Jefferson University, 2018, para. 2 and title)

"With the ever-evolving legislative and regulatory environment, accumulating data and diverse political commentary on the topic of medical marijuana, there exists a vast knowledge gap," said Charles Pollack, MD (Thomas Jefferson University, 2018, para. 4).

Our goal at The Lambert Center is to help expand the knowledge base of scientists and clinicians—physicians of every specialty, nurses, nurse practitioners, physician assistants and pharmacists—and these new programs will help advance the knowledge and treatment around medicinal cannabis. (Thomas Jefferson University, 2018, para. 4)

According to Hasse (2019), "Cannabis is getting serious. With billions of dollars invested into the industry, hundreds of thousands of jobs created by it, and countless hours of scientific research dedicated to it, marijuana is no longer a thing that's taken lightly" (para. 1).

The momentum of the industry is being seen in the classroom. The University of Connecticut quickly ran out of seats, in a lecture hall that sits 400 plus students, for its new course called the Horticulture of Cannabis: From Seed to Harvest, offered in Spring 2019. Professor Gerard Berkowitz, who will be teaching the class stated: "There's going to be more students taught in this one class than in my department, all the professors, all the classes they teach, both semesters" (Burke, 2018, para. 1).

Hasse (2019) listed a few of the colleges and universities in America that over the past few years have dedicated resources to providing cannabis education including Northern

Michigan University’s four-year undergraduate Medicinal Plant Chemistry degree, UC Davis undergrad “Physiology of Cannabis” class, Daniels College of Business at the University of Denver class in “Business of Marijuana,” Vanderbilt’s law school course in “Marijuana Law and Policy,” Larner’s College of Medicine at the University of Vermont online course in “Cannabis Science and Medicine,” Ohio State University’s Mortiz College of Law seminar in “Marijuana Law, Policy and Reform,” University of Washington’s class on “ Medicinal Cannabis and Chronic Pain,” Harvard Law School class in “Cannabis Law,” the University of Maryland’s School of Pharmacy’s Master of Science in Medical Cannabis Science and Therapeutics, and a graduate “Cannabis Control” certificate program at Clark University. Other schools focused on cannabis include Oaksterdam University, Cannabis Training University, and Clover Leaf University.

### **Canada and Cannabis**

Having legalized cannabis in June 2018, Canada has a strong desire to promote innovation and entrepreneurship across the country, showing the world that a “well-regulated, well-run, highly professional cannabis industry can be a positive contributor to a national economy” (Deloitte, n.d., p. 25). With this outlook, Canada’s cannabis educational programs could be model programs.

In September 2018, Niagara College Canada, in partnership with Canopy Growth Corporation, launched its first Commercial Cannabis Production Graduate Certificate Program – Canada's first postsecondary credential in the production of commercial cannabis. Dan Patterson, President of Niagara College, stated, "Partnering with a world-leading organization like Canopy Growth will open up new career and development opportunities for our students and graduates and give them a head start in this very competitive market" (Niagara College Canada, 2018 April

17, para. 6). The program is a one-year, experience-based, credentialed program in the study of cannabis. The advertisement for the program reads, “There is a new and overwhelming need for qualified and trained professionals in the booming cannabis production industry. Niagara College will prepare you with the skills to begin working in the cannabis business” (Niagara College Canada, n.d., n.p.). This program will provide training in biology and cannabis production, including plant nutrition, environment, lighting, climate control, and pest control, and cultivar selection. Internships and co-op opportunities for students will be available under the headings Cannabis Production, Horticultural Technician, Greenhouse Technician, and Business programs.

Entry into Niagara College's program is very competitive, with over 300 people applying for 24 spots each year for their one-year cannabis growing certificate. The age range in the first cannabis class was 21 to 54, with several students leaving full-time employment to participate.

Vivian Kinnaird, Niagara College's Dean of Business, Hospitality, and Environment, stated,

This isn't a program for people who are just thinking about what am I going to do at college? It is for people who know something about plant science and understand the principles and fundamentals scientifically of what goes on in a growing environment so we can start the program at a higher level. (Dunne, 2018, para. 12)

The fast-paced growth of the cannabis industry has educational institutions rushing to respond at all levels. New Brunswick, in the fall of 2017, began a 12-week community college program for medical cannabis cultivation technicians. Olds College in Alberta started offering online courses in cannabis production in the spring of 2018. A one-year program for Cannabis Applied Science began in October 2018 at Loyalist College in Belleville, Ontario. A center of cannabis research will have a commercial-scale greenhouse at the University of Guelph (Dunne, 2018).

The University of Guelph produced the first graduate in North America, Deron Caplan,

with a Ph.D. in cannabis production. Caplan's professor, Youbin Zheng, stated that the industry needs more academic types in addition to people with training on the operational side. "Growing marijuana has been illegal for so many years that there has been hardly any scientific research up until this point on how to produce this crop," said Professor Youbin Zheng. "There has been no science guiding this industry" (University of Guelph, 2017, para. 2). "All these growers, they need technical support, scientific research, to help them," observed Zheng. "I frequently get phone calls asking, 'Youbin, do you have any graduate students? We want them'" (Dunne, 2018, para. 27). Elizabeth Foley, who recently completed an undergraduate honors degree in biology, sees the cannabis industry as "the start of something very big." Regarding her job prospects, Foley stated, "All the licensed producers will know that I'm a professional, skilled worker who knows what she's going to be doing when I get in the door of their facility" (Dunne, 2018, para. 16).

### **Workforce Development and Cannabis**

Higher education can position itself to fulfill the growing cannabis workforce gap. The State of California Department of Industrial Relations (2018) created a Cannabis Apprenticeship Report regarding needed skills and jobs:

Pharmacy Technician Cannabis, Cannabis Nursery Specialist, Manufacturing Technician, Cannabis Distribution Drive. The skills include horticulture, pest management, trimming, extraction processes, manufacturing of edibles, equipment maintenance, building maintenance, regulatory compliance, good manufacturing practices, good lab practices, laboratory analysis, use of Hazard Analysis Critical Control Point, packaging and horticulture technician, pharmacy technicians/budtenders, extractors, laboratory technicians and extract packagers. Other jobs include custodians, delivery drivers, and

dispensary workers. (p. 5)

Shannon Vetto, a cannabis industry consultant, said, “Educating people about the science of cannabis and the legal issues surrounding it allows people to enter the industry in a more legitimate way, equipped with real data and real knowledge, not myths ...” (Weed, 2018, para. 5).

Career Education, also known as Career Technical Education, is a cornerstone of community colleges, providing “students of all ages with the academic and technical skills, knowledge and training necessary to succeed in future careers and to become lifelong learners” (Advance CTE, n.d.-a). As legalization of cannabis in Canada was nearing, Bein (2018) wrote, “The cannabis industry is in desperate need of trained workers as legalization looms” (subtitle). Cannabis companies and colleges in Canada are working together to fulfill this desperate need. According to Dr. Tony Holler, CEO of Sunniva,

Right now we’re forced to hire outside the industry and then train people ourselves...

That's costly, it takes time. We reached out early on to Okanagan College and said listen this is going to be a big industry in the future, the college should start an educational program... They're trying to support the industry, which desperately needs it. (Bein, 2018, para. 5)

If traditional higher education administrators choose to pass on this growing need to provide education and training to the cannabis industry, then educators within the private sector may fulfill the ever-increasing workforce gap. One example of this is the Cleveland School of Cannabis, which offered its first classes on marijuana in January 2017. Austin Briggs is the founder of this for-profit school. According to Nobile (2018), Briggs's original name for the school was Cleveland Cannabis College, but they had to drop "college" before the state would

approve the school. With the requested name change, “the school received state approval from the Ohio State Board of Career Colleges and Schools” (para. 6). This request is occurring in Ohio and across the nation (Nobile, 2018). “Briggs saw a need for education in the budding cannabis industry first-hand after working with a friend’s cultivation operation in California, which eventually put him on the path to creating the Cleveland school” (Nobile, 2018, para. 7).

### **Developing New Programs**

Kenneth Gronbach calls himself a generational demographer. Chapter one of his book, *The Age Curve*, is titled “The generational impact on supply and demand.” Gronbach (2008) stated,

Everything in business—everything—is affected by supply and demand. After you determine the product or service you have to sell, you’d better find out who buys what you’re selling. Where are the customers? How do you reach them? Above all, are there enough of them? And is their number expanding or shrinking? (p. 3)

According to Gronbach, “If you want to predict the future, DO THE MATH!” (Gronbach, n.d., slide 19). He added, “generation size is also market size” (Gronbach, 2008, p. 8). Generation Y, born 1985 to 2004, at 100 million is bigger than the Baby Boomer’s 79 million (Gronbach, 2008). They are entering the labor market and require “purpose, transparency, integrity, honesty, fairness, empathy,” and they have a “green and cyber focus.” Gronbach anticipated “Generation Y young men [would] flood technical schools” (Gronbach, n.d., slides 27-28). Careers today that did not exist just a few years ago include “drone operator, social media manager, app developer, and cloud computing engineer” (Frazee, 2018, para. 2). The questions raised are, “how the workforce is preparing for the future, starting in the classroom. What role should colleges and universities play in preparing students for a workplace that is constantly changing?” (Frazee,

2018, para. 3). Gronbach (n.d.) stated, "A huge paradigm shift" is upon us. "As Boomers retire a void is created in the technical field they dominated. Generation X rejected the technical blue-collar professions. Technical schools filled up with the best and the brightest seeking high-paying, in-demand jobs" (Gronbach, n.d., slide 34-35). Gronbach stated, "The traditional education model is history!" and that "The age of the liberal arts education is about to give way to specific, measurable training" (Gronbach, n.d., slide 59).

Preparation for the workforce is not the sole responsibility of either the community college or technical and trade programs. External considerations, such as institutional competition and state regulations, are two of the most significant factors impacting program innovation (Zapata, 2013). Schoolcraft and Sax (2016, picture caption) stated, "Getting programs to market quickly is more important today than ever before given how quickly the labor market moves and the growing trend of adults looking for just-in-time learning opportunities."

According to Bein (2018),

With the industry changing by the minute, institutions will need to work closely with employers to keep the curriculum up to date. The first people that are involved aren't academics sitting in an ivory tower somewhere, these are people who are involved in the industry. It is a very fluid world. Anyone who is involved with it will have to live with the fact that they will need to keep learning. (para. 30-32)

New program development provides colleges a means to evolve, attract new audiences, and stand out, thereby remaining competitive and relevant and meeting the shifting needs of the student, industry, and society. Schoolcraft and Sax (2016) provided the following five common barriers to the development of new academic programs: (a) expedite the process by creating a fast-track approval process; (b) lighten the load by fostering a collaborative relationship between



faculty and the administrator involved with the college's finances; (c) cultivate champions by providing incentives such as stipends, professional development, travel, and research grants; (d) leverage expertise by repackaging programs to implement an interdisciplinary/multidisciplinary approach; and (e) express culture by changing the college culture from an academic mindset to an entrepreneurial mindset. Frazee (2018) provided a list of approaches that educational institutions are using to try to prepare students for jobs that do not exist yet: "throw out the idea that you have to match degrees with jobs; stop thinking about higher education as a four-year, linear journey; find ways to fill the skill gap; and 'Making the classroom more like the office'" (headings).

To identify which programs to launch and how current programs can improve, Alexander (2017) created a program life cycle guide. A few entrepreneurial faculty members can no longer be the backbone of new program ideas because the conversation has evolved from "opportunities abound" in 2011 to "a competitive landscape, more skeptical students" in 2016 (Alexander, 2017, Academic Leadership figure). Labor market data, along with the professional skills and competencies, can be used in new program development, as well as to inform efforts to refresh or overhaul existing programs. Alexander (2017) stated,

...quantitative labor market data should be coupled with a number of qualitative factors.

These include insights from: employers about how to best prepare students for professional success, an assessment of prospective students' needs with regards to program accommodations and employment outcomes, the institution's own strategic priorities, and existing capacity to launch or refresh [a] program. (para. 4)

Paul Smith's College is integrating the disciplines of human health and the environment. Lee Ann Sporn, the coordinator of the human health and the environment program, said, "The

program was created after all New York colleges received a letter from state environmental health directors saying there was a *dire need* for people trained in that field” (Cerbone, 2018, para. 3). Sporn continued,

Often departments of health are staffed by people with medical training... but we also need people there who are ecologists, who understand environmental change, the bigger picture... We know that there are students that are passionate about the environment who don't want necessarily traditional careers... (Cerbone, 2018, para. 5)

Although cannabis has its roots in antiquity providing medical relief through the centuries, currently the cannabis industry offers several non-traditional career choices. The growth within the cannabis industry offers an opportunity for higher education and potentially Career Education (CE) to redefine how to educate and how to do business. Canada is creating a model for the world to emulate.

### **Career Education**

Thomas Morrill (1810–1898), a Republican congressman from Vermont, spent a good part of his life pursuing the vision of farmers and mechanics learning the classics along with the practical skills of their trade (Biographical Directory of the United States Congress, n.d.). John Dewey stated the principle of learning through doing is what education should be based upon (Manning, 2017). Dewey's three pillars are the foundation of (CE) (a) high school (b) collaboration with local businesses, and (c) engagement with higher education.

Moorehead (2016) outlined the following seven steps for building a credible certification program that is both cost-effective and convenient for the industry partners and is different from training programs: select a product, determine the product features, develop a curriculum, create a test bank, test all the material for validity and reliability, launch and implement the program,

and maintain the program. Certification programs tend to assess knowledge, skills, and competencies; training programs do not require this type of assessment. The National Occupational Competency Testing Institute offers four essential components to create quality CE programs: (a) quality administrators who come from the ranks of the CE teaching community; (b) quality programs that respond to the needs of the local economy, assist students becoming independent, assure our standard of living, and help maintain our infrastructure; (c) quality teachers who need a deep understanding of and experience in the related technical content they deliver and that classroom pedagogies reinforce; and (d) quality tools and data that should be used to underscore the program's credibility, help identify instructional areas of improvement, and offer professional development (Advance CTE, n.d.-b).

### **Summary**

The rich history of cannabis reaches back in time to 2000 BCE. With the movement of cannabis legalization, there is a clear need for an educated and trained workforce. Post-secondary education, specifically career education, has the opportunity to fill these gaps. The following chapter will provide information about the study participants, instruments, research design, procedure, and data analysis. Data collection instruments, processes, participant protection, data analysis, study limitations, and delimitations will also be presented.

## Chapter 3 – Methods

This chapter presents the research design. The sample population studied is the cannabis industry experts, known as interviewees. The research design includes processes utilized to obtain participants, the instruments used, the research design, procedure, and data analysis to conduct the research.

Cannabis sales are anticipated to grow 150 percent from 16 billion to 40 billion dollars, and jobs from 100,000 to 414,000 from 2017 to 2021 (BDS Analytics, 2018; Borchardt, 2017; Moody, 2018). A highly trained workforce is necessary to support the growing medicinal and recreational cannabis industry. Academia has the opportunity to create new majors for the ever-increasing cannabis industry (Moody, 2018). The first research question, what are the cannabis industry's workforce needs that post-secondary education could build around to train professional cannabis representatives, may offer insight into the needs of this growing industry. The second research question, what benefits and barriers do cannabis industry representatives see in developing a cannabis educational workforce program, may provide insight into a preferred pathway for creating a highly-trained workforce.

Heidegger's interpretative phenomenological approach was used to capture the essence of how the cannabis industry representatives experience, interpret, and process the workforce development needs within the growing cannabis industry. In 1764, Immanuel Kant first used the term "phenomenology," which means "to appear" (Yuksel & Yildirim, 2015, p. 2). The German philosopher Edmund Husserl developed a philosophical phenomenology, the science of pure phenomena; Husserl's student, Martin Heidegger, presented the thought of "being there" and the conversation between a person and his/her world (Groenewald, 2004, p. 44). The intention of a phenomenological researcher is to accurately depict the phenomenon, staying true to the facts,

while understanding social and psychological aspects of the phenomena from the viewpoint of the research subjects and "the lived experience" of the phenomena (Groenewald, 2004, p 44; Iwamoto, Creswell, & Caldwell, 2007; Johnson & Christensen, 2017; Yuksel & Yildirim, 2015). Some guidelines, techniques, and steps are used reluctantly in phenomenology since ... "one cannot impose method on a phenomenon..." that would challenge the integrity of the phenomenon (Groenewald, 2004, p. 44).

Johnson and Christensen (2017) asserted "the key element of a phenomenological research study is that the researcher attempts to understand how people experience a phenomenon from each person's own perspective" (p. 48). The "purpose of phenomenological research is to obtain a view into your research participants' life-worlds and to understand their personal meanings constructed from their 'lived experiences'" (Johnson & Christensen, 2017, p. 444).

"U.S. scientists continue to have a hard time getting funding to study the health impact of the drug" (Grant, 2017, subtitle). The illegal historical status of cannabis within the United States, combined with the recent legalization within the industry, has created a phenomenon: "...employment in the legal marijuana industry is growing faster than any other field..." (Angell, 2018a, para. 1). The aim of phenomenology is to obtain the perceived experiences from the interviewees regarding workforce needs within the growing cannabis industry. The phenomenon that will be studied is the subjects' consciousness and experience of [the] phenomenon' (Johnson & Christensen, 2017). "Heidegger, who was interested in interpreting and describing human experience, believed that bracketing was not warranted because hermeneutics presumed prior understanding" (Reiners, 2012, para. 5).

## Participants

The eight participants, referred to as interviewees, were interviewed with the goal of accessing the essence of their experience regarding the workforce needs of the cannabis industry. This essence of the phenomena "...is derived from participants' perceptions and experiences, regardless of the interpretation of the researcher. The participants' narratives of experiences provide the meaning of the phenomena" (Yuksel & Yildirim, 2015, p. 8). All interviewees were 18 years or older, employed in a managerial or administrative position within the legal cannabis industry for at least the past six months (June 2018 to December 2018). The homogenous group consisted of cannabis professionals working in the following areas: cultivation, manufacturing, and retail. Those selected for the study had meaningful experiences of the phenomenon – workforce development needs within the cannabis industry (Groenewald, 2004). The researcher conducted pre-interviews when selecting participants for the study.

**Sample.** Johnson and Christensen (2017) recommended ten to 15 participants for phenomenology research. Creswell (2015) is cited as listing five to 25 subjects, while Morse (1994) recommended at least six. The researcher interviewed eight participants. Purposive sampling and snowball sampling determined the interviewees for this study. "A purposive sample is a non-probability sample that is selected based on characteristics of a population and the objective of the study," and is "...very useful in situations when you need to reach a targeted sample quickly" (Crossman, 2018, para. 1). Swiftly reaching the sample is valuable when utilizing phenomenology and in-depth interviews. The purposive sampling type were homogeneous since professionals in the cannabis industry have "...a shared characteristic or set of characteristics" (Crossman, 2018, para. 4). Snowball sampling is also a non-probability sampling method and is "...used where potential participants are hard to find" (Stephanie, 2014).

Snowball sampling was ideal for a profession only recently seen in a positive light. The researcher worked with a cannabis organization to obtain potential participants.

## **Instruments**

**Data collection.** Johnson and Christensen (2017) acknowledged the primary data collection method for phenomenology research is in-depth interviews of six to ten co-researchers. Purposive sampling and snowball sampling were utilized to obtain the interviewees. Eight interviewees from California were contacted by email and phone and asked to identify other potential research participants. The researcher obtained permission for the study from National American University Institutional Review Board, as well as Kansas State University Institutional Review Board. The timeline of the study was from January 2019 to March 2019. A pilot test of the in-depth interview questions occurred in January 2019. From January to March 2019, in-depth interviews occurred. Transcribing the in-depth interviews was ongoing, and the coding process began after all interviews were completed. In May 2019 essential descriptions and conclusions were drawn.

**Tools.** “Phenomenology as a methodological framework has evolved into a process that seeks reality in individuals’ narratives of their lived experiences” (Yukel & Yildirim, 2015, p. 2). Iwamoto, Creswell, and Caldwell (2007) suggested that semi-structured in-depth interviews range from 30 to 90 minutes. Interviews conducted lasted from 49 minutes to 126 minutes. Demographic information gathered included age, gender, ethnicity, and the location of interviewees. The following six interview questions (IQ) were asked:

IQ1. What type of license do you operate, and what was your education and training for your current work/position?

IQ2. How long have you worked in the cannabis industry, and how would you describe

your experience in this field?

IQ3. What is your experience of the absolute must-have qualities or competencies for people interested in working in the cannabis industry?

IQ4. Can you tell me about which skill sets you think might be needed in the future as the legal cannabis industry grows, and what are currently the hardest traits to find among applicants for positions in your business?

IQ5. Based on your experience, in what ways could higher education evolve to better prepare candidates for work in this field, and do you see any problems/benefits with this?

IQ6. Where do you see cannabis careers in five years?

The in-depth interviews occurred over the phone or computer via ConferZoom a telephone and/or video conferencing and recording service, supported by California Community Colleges Confer (CCC Confer). The initial contact provided an introduction, brief study overview, and the opportunity to measure possible interest. Permission was obtained from the interviewees to record the interviews. The researcher followed the lead of the interviewees as the conversation unfolded. The focus of the interviews was the lived experience of the interviewees, as well as the essence of their experience.

The interviews were audiotaped and transcribed verbatim by the researcher to protect against bias. To verify the study's findings, the interviewees reviewed, validated, and endorsed the transcription. The in-depth interviews were utilized by the researcher to focus on the interviewees' statements that highlighted the essence of their experience (Johnson & Christensen, 2017). Once the interviews began, the researcher utilized the following seven active listening techniques: (a) being attentive, (b) ask open-ended questions, (c) ask probing questions,



(d) request clarification, (e) paraphrase, (f) be attuned to and reflect feelings, and (g) summarize (Center for Creative Leadership, n.d.).

## **Research Design**

The research design included information about the rationale, as well as protecting the participants.

**Rationale.** A phenomenological study requires the interviewees to be a somewhat homogenous group, having experience with the same phenomenon (Yuksel & Yildirim, 2015). The homogenous group included growing centers, manufacturers, and retail. Interviewees were chosen using purposive and snowball sampling. Mason (2010) found a homogenous group supports the need for a smaller sample size. The in-depth interviews reinforced the need for a small sample size, which uncovered "some commonality in human experience, which is called an essence" (Johnson & Christensen, 2017, p. 446). A phenomenological study requires the interviewees to be a somewhat homogenous group, having experience with the same phenomenon (Yuksel & Yildirim, 2015). The homogenous group included growing centers, manufacturers, and retail. Interviewees were chosen using purposive and snowball sampling. Mason (2010) found a homogenous group supports the need for a smaller sample size. The in-depth interviews reinforced the need for a small sample size, which uncovered "some commonality in human experience, which is called an essence" (Johnson & Christensen, 2017, p. 446). Semi-structured interviews were administered, according to Gill, Stewart, Treasure, and Chadwick (2008):

Semi-structure in-depth interviews consist of several key questions that help to define the areas to be explored, but also allows the interviewer or interviewee to diverge in order to pursue an idea or response in more detail. The flexibility of this approach allows for

the discovery of elaboration of information that is important to participants but may not have previously been thought of as pertinent by the researcher. (para. 5)

An informal pilot study was conducted with a small group of cannabis industry professionals to improve the proposed in-depth interview questions.

**Protecting participants.** The researcher conducted pre-interviews when selecting participants for the study. National American University Institutional Review Board approved the study before any of the research was conducted. Once transferred to Kansas State University, the Kansas State University Institutional Review Board approved the research too. Creswell (2015) advocated for the protection of human participants and ethical considerations throughout the study and data collection process. This study ensured, as much as possible, that no physical or mental harm would come to the interviewees by providing full disclosure and informed consent, privacy, confidentiality, and appropriate control of study data (Creswell, 2015; Johnson & Christensen, 2017). The physical and mental risk of being interviewed over the phone was minimal since the identity of the interviewees was kept confidential. Interviewees were informed of the study's purpose and were given the researcher's contact information. Interviewees received informed consent documentation. Interviewees were volunteers, and no unique identifying data was collected from them to prevent individual identification. Study data was securely stored and access limited to study personnel.

### **Research Procedure**

The purpose of phenomenological research method is to maximize the depth of the information collected. The goal is to describe a lived experience, from the perspective of the interviewees. The methodology was open-ended, unstructured, in-depth phenomenological interviews to encourage interviewees to share specifics about their experience. This

“phenomenological study is to understand and describe a specific phenomenon [cannabis industry workforce needs] and reach at the 'essence of participants' lived experience of the phenomenon” (Yuksel & Yildirim, 2015, p. 3). The focus of the phenomenological research was to "generally, assume that there is some commonality in human experience, and seek to understand this commonality"; this commonality is also called “an essence” of the experience (Johnson & Christensen, 2017, p. 446).

The researcher recruited interviewees who have had a lived experience with the phenomenon of interest: the cannabis industry’s need for a trained workforce. Data came from the eight semi-structured, in-depth individual interviews consisting of four open-ended interview questions regarding the cannabis industry workforce needs and two additional questions about the license(s) held, education, and time working within the industry.

The Center for Innovation in Research and Teaching at Grand Canyon University (n.d.) provided the following steps to take in phenomenological methodology and data collection: (a) determine if phenomenology methods are appropriate for the research conducted; (b) recruit participants who have had a lived experience with the concept or phenomenon of interest; and (c) interview individually. Interview questions are limited to one or two broad, open-ended questions regarding the co-researchers’ experience with the phenomena such as: What has been your experience with the cannabis industry’s need for a trained workforce? Data analysis begins with horizontalization, in which meaningful statements taken from the transcripts are used to describe elements of the co-researchers' phenomena experience(s). Useful comments become clusters of meaning, which become themes of the phenomena experienced by the co-researcher. These meaningful statements/clusters of meaning are used to write a textural description regarding what the participants experienced. The useful comments also are used to write a

structural description (e.g., imaginative variation), which provides the context and setting that influenced how the participants experienced the phenomenon. The textural/structural descriptions are used to write the essence of the phenomena, which is also known as the “essential, invariant structure” (Center for Innovation in Research, n.d.). The essence of the phenomena will be a passage conveying to the reader ... “what it would be like to experience the phenomenon” (Center for Innovation in Research and Teaching, n.d., n. p.).

### **Data Analysis**

The purpose of the sampling process in qualitative research is to select the pre-eminent cases for examination. Ideally, these cases ought to provide the researcher with a phenomenon that has been experienced in a variety of situations (Moreno, 2002). According to Yukel and Yildirim (2015), phenomenological analysis begins with “preparing data for the analysis, reducing the data phenomenologically, engaging in imaginative variation, and uncovering the essence of the experience” (p. 10). In this study, a thematic analysis will be utilized to analyze the phenomenological data. According to Barnard (2004), categorizing data is vital in defining the correlations between the interviews, which, in turn, supports additional grouping of related information to answer the research questions. Noted are themes that emerge from the interviews. The following steps were taken to report validity: horizontalization, interviewees’ approval of verbatim transcripts, and peer review (Moreno, 2002; Yusel & Yildirim, 2015).

Yukel and Yildirim (2015) wrote that the purpose of data analysis "is to reach the essence of the experience of the phenomenon" (p. 13). Phenomenology essence was pursued using the following steps: (a) horizontalizing, reducing experiences to the invariant constituents; (b) thematic clustering, creating core themes; (c) comparing multiple data sources to validate the invariant constituents; (d) crafting individual textural descriptions of participants; (e)

constructing individual structural descriptions; (f) constructing composite structural descriptions; and (g) synthesizing the texture and structure into an expression (Yukel & Yildirim, 2015), and end with pattern codes offering an essence.

### **Summary**

Chapter 3 presented information about the sample population in light of the study's research design, purpose, and questions. Included was data collection instruments, processes, and participant protection, as well as data analysis and study limitations.

Chapter 4 presents the sample researched, data collected, data analysis guidelines, abridged interviews, and summary of findings. Chapter 5 includes a review of the findings, implications of the findings, research limitations, and recommendations for further research.

## Chapter 4 – Results

Chapter 4 contains the outcome of the research study and is presented in Table 1 as well as within the eight abridged interviews. The interview transcripts were analyzed using the following coding methods: (a) in vivo coding, (b) eclectic coding, and (c) focused coding. At each level of analysis, comparison was used to refine the data, and the “top 10 list” was utilized as a transition between postcoding and prewriting. The transcriptions were then abridged to reveal the rich content of the in-depth phenomenological interviews and help to provide the “textural-structural description of the meanings and essences of [the interviewees] experience” (Moustakas, 1994, p. 122). Adhering to phenomenological theory methodology, some interview questions were asked of some of the eight interviewees but not of others; this occurred when the interviewees naturally answered the questions in the course of the interview. Bias coding was diminished since transcribing and coding began after the last interview was conducted.

### Sample

Eight participants were interviewed for this study. They have each been provided one of the following gender-neutral pseudonyms in an effort to personalize the interviews while maintaining anonymity: Angel, Jody, Lennon, Quinn, Riley, Jesse, Sage, and August. They held a variety of licenses, state and local, in the areas of cannabis cultivation, manufacturing, distribution, and retail. Their education ranged from some postsecondary at 12.5 percent, associate degree at 12.5 percent, bachelor’s degree at 50 percent, and master’s at 25 percent.

A number of the participants defined years in the legal market as well as the black market, or affiliation within the cannabis industry. The total years within the industry varied among the eight participants from two months to 12 years in the legal market and three to 43 years in the black market. Angel identified being directly in the legal cannabis market for two

months and affiliated with the cannabis industry for three years; the rest of the interviewees have been involved directly with the black market as well as the legal market for their entire career. Jody stated nine years, Lennon one year, Quinn ten years with product exposure for 30 years, Riley eight years, Jesse eight years with 30 years of growing experience, Sage four years with 43 years of exposure to the culture of cannabis, and August 12 years of experience with a total of 23 years being involved in the industry. The interviewees had an average of six and a half years working in the legal cannabis industry with an average of 26 years of overall exposure to the cannabis industry.

All participants self-identified as White, non-Hispanic. The ages of the participants varied; participants who were 50 years or older represented 25 percent of the sample, 50 percent were between 41 and 49, 25 percent were between 31 and 39. All eight participants, five male and three females, lived and worked within the Western region of the United States.

### **Data Collection**

The research data is based on eight interviews conducted with men and women employed within the cannabis industry. Zoom Video Communications was used to record and provide the initial transcription. Once all the interviews were complete, the researcher transcribed each Zoom interview session, which was followed by manual coding that began after the final interview. The researcher ensured phenomenological theory methodology, focused on the lived experience (Laverty, 2003) of the participants working in the expanding cannabis industry, was rooted throughout the data collection and processing of the research data. The researcher engaged in an epoché approach to create a positive atmosphere and rapport with the interviewees (Moustakas, 1994).

## Data Analysis

The interviews were analyzed as a group for each of the six interview questions, allowing time for analysis before moving on to the next question. Three types of coding methods were applied: (a) the first cycle coding method utilized the elemental method of in vivo coding, (b) the first to second cycle coding method incorporated eclectic coding, (c) the second cycle coding employed focused coding. The “Top 10 List” of interviewee shared themes was applied during the postcoding and prewriting transition (Saldana, 2016).

The interviewees’ responses were analyzed first with in vivo coding, based on the actual spoken words of the interviewees (Manning, 2017), which is a suitable coding method for qualitative researchers learning how to code. Furthermore, in vivo coding honors the interviewees’ voices (Saldana, 2016). Eclectic coding, a form of open coding, was applied to theming the data and initial coding methods. The next step focused on transforming the eclectic coding by applying focused coding, also known as selective coding or intermediate coding, (Saldana, 2016) of the data to develop categories based on frequent codes that emerged from in vivo coding (Onwuegbuzie, Frels, & Hwang, 2016). The “Top 10 List” was utilized to focus on utilizing a small number of quotes, ideally, no more than 10, to help provide structure for the research findings (Saldana, 2016). The following were the steps taken using the complete transcription of every research participant, also referred to as interviewee:

1. Transcribed eight interviews from Zoom recordings.
2. Analyzed each of the eight interviewee’s answers one question at a time.
3. First cycle coding, in vivo, focused on interviewees’ quoted responses.
4. First to second cycle coding, eclectic coding, categorized the in vivo data.
5. Second cycle coding, focused coding.



6. Applied the “Top 10 List” to transition from postcoding to prewriting.
7. An abridged transcript was created from the original phenomenological interviews.

Table 1 offers an overall summary of the research findings and can be utilized as a map to assist academia in homing in on skills, traits, and or themes when developing cannabis-based programs. The coding process along with the abridged interviews yielded seven themes and ten skills and traits as seen in Table 1. Themes represent repetitive topics presented by the interviewees, skills refer to being able to do something well, traits denote a quality or characteristic, and skills and traits refer to the combination of being able to do something well along with conveying a quality or characteristic. The seven themes include love and passion, advocacy, business acumen, relationships, professionalism, compliance and cultivation. The ten skills and traits include advocacy, business acumen, knowledge, loyalty, character, common sense, love and passion, core values, people skills, and being nimble.

Most of the themes, skills and traits have universal meanings except love and passion and core values. Within this study love and passion include (a) holding love and passion for the cannabis plant, (b) specifically caring for the plant, (c) the art and craft of growing the plant, (d) knowing its medicinal properties, and (e) showing love to those being helped by cannabis. While core values embrace the following four qualities (a) having respect for climate science, (b) creating a quality cannabis product, (c) valuing and having passion for how cannabis can help people, (d) as well as the mission to unlock the positive effects of the cannabis plant. Love and passion, advocacy and business acumen are listed within Table 1 vertically as themes and horizontally as skills and traits, and can be foundational components of any program. Students enrolled in a cannabis program would hold love and passion for cannabis as one of its core

values, would advocate on behalf of the industry, and demonstrate professional competency and expertise within the industry.

Table 1

*Combining Themes with Skills and Traits*

Themes	Skills		Traits			Skills and Traits				
	Advocacy*	Business Acumen*	Knowledge	Loyalty	Character	Common Sense	Love & Passion*	Core Values	People Skills	Being Nimble
Love & Passion*							x	x		
Advocacy*	x		x							x
Business Acumen*		x	x			x				x
Relationships				x	x				x	
Professionalism					x	x		x	x	
Compliance			x		x	x				x
Cultivation			x		x	x		x		x

The following is describing the Table 1 horizontally utilizing themes as the lens. The theme of love and passion includes the skills and traits of love and passion along with core values pertaining to cannabis. The theme of advocacy includes the skills of advocacy and knowledge and the skill and trait of being nimble. Business acumen as a theme includes the skills of business acumen and knowledge, the trait of common sense, and the skill and trait of being nimble. The theme of relationships includes the traits of loyalty and character and the skills and traits of people skills. The theme of professionalism includes the traits of character and common sense and the skills and traits of core values and people skills. The theme of compliance includes the skill of knowledge, traits include character and common sense, and the skill and traits of being nimble. The theme of cultivation embodies the skill of knowledge, the traits of character and common sense, and the skills and traits represented by core values and being nimble.

Moving through Table 1 vertically the skills of advocacy and business acumen are connected theme wise to themselves. The skill of knowledge is linked to the themes of advocacy, business acumen, compliance and cultivation. The trait of loyalty is linked to the theme of relationships. While character as a trait is connected to the themes of relationships, professionalism, compliance, and cultivation. Common sense as a trait is tied to the themes of business acumen, professionalism, compliance, and cultivation. The skill and trait of love and passion is connected to the theme of love and passion. The skill and trait of core values include love and passion, professionalism, and cultivation. The themes connected with people skills within skills and traits includes relationships and professionalism. The last skills and traits, that of being nimble is connected to the themes of advocacy, business acumen, compliance and cultivation.

### **Abridged Interviews**

**Interview 1 Angel.** I have a master's degree and a double major [for my undergraduate]. A lot of what I was hired for was both [my] patience and to be an adult in the room, and then I have some tolerance for paperwork. I know a lot of people who regulate us; those relationships matter a lot. In the old school cannabis industry, you had to be vouched for or known to get in. I was working hand-in-glove with people in the industry for about three years before I came over here two months ago. I knew the company, and they knew me through my work. I had a resume and education that worked, but you can't underestimate that personal part. We have a procurement person who has relationships with over 70 farms, and he/she just could not get traction if he/she wasn't known by those people. [Our] startup company does [have] both manufacturing

and distribution licenses. At first [we] had about a dozen employees and we're closing in on 150 now.

The biggest part of what defines our experience is not so much that we're a cannabis company [but] that we're a startup that's growing very fast and pivoting: doing and redoing real estate, moving people around and buying bigger equipment – it's very, very dynamic. The state just dropped their permanent rules that were several hundred pages to read. We spotted one thing that we needed to react to right away, and in the midst of this we bought, cleared, and prepared [a building] first for temporary distribution while we build a really nice [permanent] space there. You can imagine if you're a little company and you don't have an in-house developer; you're running pretty hard to know what you need to know.

I think the company is doing really well. We have three market segments: people who play sports on the weekend and get beat up, people who self-medicate – God help them they need something better than an opioid, and people who are kind of their own healing practitioners. We feel like we've grabbed the top of the mountain, now we need to in a competitive sense, defend it. We're looking forward to what we think is likely, federal legalization and being able to take our more powerful products to other markets. We're sticking our toe in the waters internationally. We're businesspeople that want to build a billion-dollar company, plans [are] to keep production entirely in our current location.

Regarding qualities or competencies, we need people who show up reliably and work a fair day. I think things get much finer on values. There are several core values that include respect for climate science, quality first, and the mission to unlock the

cannabis plant to positively affect lives. You don't have to be a cannabis user, you don't have to have previous experience in the cannabis industry, but that set of values including whole-plant cannabis can be a great thing for people, that part you do have to come with. Dispensaries are looking for a passion for what cannabis can do for people. We hire for the culture we want, not the culture that has been in the cannabis industry. We are a company that really wants to follow all the rules; the history has been that's how you make your money is you don't follow the rules. Certainly, a new cannabis industry does not [need] somebody who wants to go out the back door with some of the product. If you're trying to build a very compliant company, and you're hiring people that really have an outlaw ethos, it just doesn't fit; traditional industry has been the outlaw ethos.

In my location maybe 10 or 15 percent of the cannabis grows have applied for legal status. Many are staying black market. The folks who have made it legal are in a place where they can sustain themselves now. I would like to think that the black market gets weeded out over time, but we're not seeing that yet; we're seeing it shrinking some. My hope is that a lot of these small farmers can produce legally, do some flower sales and other value-added things on their own, and then a company like ours can buy the shake giving them kind of a base amount of business. They're getting some value-added dollars; it's not a commodity, but it's closer to that than it used to be.

Probably 80 or 90 percent of what somebody needs to know is available at the community college. There are certificates that already exist that have to do with marketing [and] agronomy. Ten to 20 percent that is cannabis-specific theoretically can't be funded until the feds do change; [the industry] needs to find a way to provide for that. There's a fair amount of really specialized, and in some ways, proprietary knowledge,

that's been gathered over time. [It is] different than planting 4,000 acres of corn, hitting it with Roundup twice, and running a combine through. We're looking for a way to form an association that can provide a partnership with our local educational providers. People with four-year business degrees, science degrees, we're going to get their graduates into this industry. When it comes to the workforce at large that's what community colleges do. What we're going to try to do locally [is] define cannabis as narrowly as possible, not use federal funds, and just use a certificate program.

The private sector is going to handle [educating the cannabis workforce] in the near term. There has been a trend for more training to be done in-house and less with educational partners, which is unfortunate, and I would love to see reversed. When asked what is driving this, Angel stated,

Well you aren't all known for being nimble, it's really a programmatic [issue]. The discussion [with colleges] begins with non-credit and not for credit versus a busy entrepreneur [who] says, "Oh God, please help me, I need a solution for this." The world is just too fast for [the] slow-moving opaque nature of higher ed. I still think there'll be plenty of people who come for a certificate that they know they need. But as far as actually working with employers to design stuff, it'll continue to drop and eventually nearly go away. If we need to get 40 people through training, I don't see that happening with a college very often.

The skills needed for the industry are kind of standard. This is going to be a very brand-sensitive industry – capturing the essence of a product, visual presentation, and that kind of thing. We don't have a lot of people qualified for research and development, product development; that's an area probably more for the [4 year] colleges. If you're the

Food and Drug Administration and you're testing a new drug, you're testing for what one chemical change does in a population. Cannabis, with scores of active chemicals, you're really not going to do it that way. We need people who can do multivariate [research], private [and] public colleges are very cautious because everybody takes federal funding. The cannabis industry will have to self-tax and fund a portion of that [education] until some sensible move happens at the federal level.

I find that not everybody comes with a fire to be working hard at eight in the morning. We're going to have an increasing challenge as we go into more complicated bigger automated machinery. [These] jobs [will] require more skills and we're gonna have to pay more. We're gonna have to grow those people ourselves rather than hire them; the folks pitching in are going to be [the] ones selected. Over the next five years I see a lot of shakeout in the industry, a lot of startups failing, a number of companies getting big and overall employment increasing substantially. We're likely to [be able] to export within years. The companies that have established themselves, their brand and products, and have financing are going to be really well positioned to grow a lot. The themes of increased job sophistication, higher demands on training, and more pay will fit across the industry. In the agricultural part, your guess is better than mine — fewer, smarter, smaller artisan farms with some workers. You're going to have highly automated [operations], much more than a flower farm. Regarding the sense of federal legalization, two-thirds of the population [are] in states that have some kind of legal cannabis. I think the sentiment will be to at least let the states do what they want to do.

Not everybody loved people who made alcohol. But now you're not going to find many people who rail against alcohol, who say, let's not let that brewery start in our town,

we don't need those 40 jobs. I do think over time that will happen with cannabis. The thing that really has made people angry is large agricultural grows that stink up a neighborhood. That's something that needs to get moderated. The solution to pollution is dilution. Just get far enough away from it, let it mix out. We [also] have some pretty incredible carbon filters.

**Interview 2 Jody.** I currently operate retail and [soon] cultivation and distribution facilities. I founded our first [local] legal dispensary. Since then I'm acting [in various industry and city positions]. The training that I've received for this position has been my college degree. I didn't have any [formal] training. We have to learn on the spot, to be adaptive, and make quite a few mistakes before we [were] able to understand what was the right direction. The mistakes are in this industry because of being outlawed. It created a culture where a lot of people took advantage. People couldn't use the police or [post on] Yelp [that] this is a bad person to work with. There were a lot of scam artists promising you the world. Being able to find the right people, the right professional infrastructure just caused issues.

It's a very exciting [industry] if you're passionate about what you do. For a long time, this was an advocacy field for us, patient advocacy, and safe access to alternative ways [to] medicate oneself. You really have to be very adaptable to change because today you can be living by [a certain] law and then the next morning [the law] could be something completely different. It's going to be like that for the next few years, if not more.

It will be a tough business for mom and pop shops of the world. The people that want to get in they have a home and want to pull out their equity to start a business.



Because of all the regulations and all the changes, if you don't have certain financial capabilities to weather the storm, it's not easy. Just getting licensed you have high lawyer fees, application fees, [and] you have to hold real estate for a duration before you can [move forward]. All these things unintentionally [cost] hundreds of thousands of dollars, and you're still waiting. It gets expensive, and there are still so many factors that can knock you out.

[I'd say] product knowledge, people skills, honesty, and character are the qualities and competencies for people interested in working in the cannabis industry. One of the most important is honesty [as well as] people's character because of professional issues we've had. People that are there to work and help grow the organization versus people [who] might want to take something. Finding honest people that want to be part of the organization and are honest about their motivations. [For] people skills, you need to be able to engage. I can have somebody walking in extremely excited, face-timing their grandma in Ohio saying, "Look where I'm at Grandma." And then the next person [is] coming back from chemotherapy. You need to be able to address those differences and be able to flip on the spot. It's our job to enhance [and] get what everybody needs when they come into our facility. If you're having a great time, it's a great experience; we want to tell you more about what we do. If you're just there for medicine, you're tired [and] just came back from some medical situation, we got to get what you want and gotta get [you] going. [Also] product knowledge is everything. If we don't understand the products, how are we going to be able to advise or refer? Cannabis retail certificates could be [offered in] product knowledge, understanding symptoms, types of people [and] purity. You would focus people skills [on] who is walking in the door. [Provide] a

certificate versus more extensive in-depth [training].

You need to have [a] technical background; we're doing payroll, taxes, accounting, insurance, and inspections. [For] cultivation there isn't a class that can teach you what to do. Everybody has [a way] they like [grow]. A real grower is very fluid with the plant and knows what it needs versus [using] a formula; the whole experience is not cookie cutter. [If the] humidity is too low we need to do x, you sing to it a little bit. A lot of the cultivation experience has come from trial and error, and a lot of errors, more than anybody understands. You're failing the first three years of your life if you're in the cultivation business. [For] cultivation, it is experience [that is needed]. I don't know how you can get that experience right now without having experience, without going through the trenches.

Skill sets needed in the future [include] logistics, technology, and how businesses are run. Logistics related to packaging requirements, interstate commerce, and dealing with national brands. [In the past] business was I know a guy down the street, let me call my hook up, [and] then came the legal dispensary. I do think that cannabis is more like alcohol in a sense; I like to go to the liquor store to see what I'm buying versus buying it online. How technology and deliveries might change, that's going to really [impact] the landscape of how cannabis is distributed. All of the systems, reconciling reports, tracking seed to sale, and packaging, all of that's generation one, just like the iPhone, look what we have now versus what we had in 2004.

Higher education is going to help develop new product lines. Whether it's chemistry, marketing, design, logistics, construction, product marketing [or] management, [we are] going to need higher education. Being able to understand products

chemically and how-to manufacturer [them] is the future. The cannabis industry [has] such a wide spectrum, only certain parts of it would probably require technical skills. I think if we have 10,000 jobs, maybe 2,000 jobs are [technical]. We don't know how [the industry is] going to expand, where the real job market [is] going. I'll be very important to make sure that there's [a] real viable [education] not just some bullshit, excuse my language, that teaches people [something that] doesn't even matter in real life. There's a real opportunity for the next multi-billion national company to take over the industry. If you have an ingenious idea, it can now surface because we have a multi-billion-dollar industry with not one nationally recognized brand right now. People [have the opportunity] to create the next Snicker bars, Twix, Budweiser, Coors [of] the cannabis industry.

Chemistry is key [for] developing the highest quality products; being able to understand the relationship of THC, CBD, and other compounds such as food [and] chocolate. If we're going to go into makeup, can benefits be there? What's going to happen in the medicinal aspect when we do more R and D and find something that can help with Alzheimer's or certain seizure types? Chemistry is a lot of the future when it comes to medicinal products and quality of products.

Marketing is going to be branding. How are you differentiating yourself? Are we just another weed shop on the block, or what makes us who we are? [In] being able to differentiate yourself, you're going to find a lot of marketing jobs and dollars. As we get bigger as an industry and especially [when] national brands hit, you're going to have marketing agencies slammed with cannabis work.

The designs of products, brands, layouts, interior, and exterior design [of products

and locals] are going to have to occur for the companies that are trying to build their names. A lot of science thought and creativity can go into that [and] that's going to separate one company from the other. Understanding how to build, specifically cultivation and manufacturing facilities, is a matter of design and operations at the same time. You need to build the facility to grow. You can put your electricity outlet here [or] here, but you need to be able to have cultivation experience to know that the grower really wants it four-foot-high because that's where the fans are, not on the ground [in] a pile of wires.

When asked about gleaning from Canada, Jody stated,

Look, Canada is all good [but we have] California; I'll just say that. California is definitely the 800-pound gorilla in the room when it comes to cannabis.

California is the number one cannabis quality producer in the world, hands down. Amsterdam says, "Thank you California." California is the French wine; they are known to [offer] the top cannabis brands. When you think of cannabis, you won't find California that far away. Even culturally, California is the one that pushed [the industry] forward.

Regarding logistics, a mechanical engineer would love to [design] the process that [meets] compliance regulations of how products move from [the field] to the consumer. Understanding how products are handled [and] coming up with some pretty cool systems that can take care of that, that makes you lean, gives you an edge on technology and edge over your competition.

In our industry, the manager is so dynamic with compliance, marketing, deliveries, retail, micro-businesses, and licensing, [all] requiring the manager to know a lot of different things. You probably would have to get somebody from industry [for this

position]. You gotta stay in compliance, or they can ding you, they can take away your license. So, it's a very important part of our business.

[Government agencies] created a system that they thought works in their eyes from what they understand [of] the industry, which is nothing. They worked with police departments and certain people because they were looking [at] how to make sure that we're not dealing with criminals and cartels and then started building regulations from there. I've been in this industry for a very long time. I come across a lot of people, most [are] good, regular people. They have problems, but they're not actually criminals. They broke up distribution and the supply chain so they could track and trace every single part of it. Conceptually, [I] understand but in implementation [it] costs us so much red tape, costs us so much money to comply. That's why the mom and pops are gonna have a tough time because if you don't have a high-priced lawyer that's feeding you all this information, it's tough.

Definitely, [I] see technology, marketing, and construction to be big areas of expansion in the next five years. Public policy in the next few years is going to be in a lot of change and reform due to laws. So even attorneys are going to be busy. The reason why cannabis is legal today is medically [based]. We knew ten years ago like we know now that people can benefit and it's not that bad. As an advocate, I'm trying to be an agent of change in regard to that. It's good to see that Mr. Boehner now has framed it as a financial vehicle [to] invest. But I think he should fix the social justice issues that are caused probably by his colleagues freakin' policies on the federal level.

**Interview 3 Lennon.** My advocacy started when I was young; [cannabis] didn't really come into my workspace because I was kind of always afraid it, it was always illegal. I did advocate, though. I would write letters to senators about cannabis. What got me wanting to use my degree in the cannabis industry is because I found a lot of studies that had a lot of bias in them. I wanted to use my education to help this industry grow; there's no education out there. It's a lot of misinformation – Reefer Madness era and the whole War on Drugs. When I have a community presentation, it's mostly combating misinformation.

Receptivity [has] changed at a rapid pace in the last two years. Some things were colored to protect society. Now people are more receptive because they understand how propaganda works. I got a call today to do a presentation. Two years ago, they wouldn't talk to me at all about anything with cannabis. So, I would say the perception has changed rapidly. People still don't want to start a conversation about cannabis, but if it's already going, I find people will join in. People say they don't even talk to their family about their cannabis use because it's still taboo. They're in their 50's and 60's, and they won't tell their family that they use a cream, a tincture, or smoke a joint.

The field is moving very fast; things change almost daily. I like and thrive in transitions, solving problems. If I didn't have a passion for this industry it would be way too stressful; I think the passion and the stress balance out. One stress right now is compliance, making sure our stores are compliant and adjusting to the new change regulations. There's still going to be more changes. We need to make a lot of changes to lower taxes. We're not just running the business but being proactive on the policy side.

Policy is something that interests me. I advocate not only [for] public safety and public health, but also for small businesses. Regulations opened up the industry. It's not very good for mom and pop shops how they have things set up. There's room for them only if we fight for policy change, then they'll have a seat at the table. We have to hook up with our lawyers and analysts and look at data [and put] data in the policy. Most of our businesses have been open for about a year, so we have almost a year of data. It's a small sample to analyze, but it's something to give policymakers. There is data [about] stuck people, stuck in getting their license. They're just fighting with the local authorities. In my state, 80 percent of cities have banned all licenses, so that's not much to work with. Just twenty percent [of the] cities have licenses. I don't think anything is going to smooth out for another five years; we'll be on a roller coaster ride for some time.

Organization is highly needed because things change so much. I know you can't teach this, but common sense goes a long way. In retail, it has to be people skills. Manufacturing would be more chemistry, and cultivation would be more agriculture. Organization, time management, problem-solving, and taking initiative are all needed.

Higher education could evolve to include more trades and certificates. Budtenders could get a certificate, go through a couple of months of customer service, sales, product knowledge, cannabis science, and a little bit of plant science. I'm an academic, I love being educated, but it's not for everybody. It might be a problem if there's too much. You don't necessarily need a degree, [a] certificate would work fine. Any sciences or manufacturing would be a good degree, but for bud tending apprentice and [for] cultivation a trade school and not necessarily a higher degree. My dad was a mechanic, he went to trade school to work on cars, but he also went to school and got a

degree in electronics and engineering so he could do more. You can get a certificate and work on cars, or you can go higher and get an engineering degree and go work for a car company and design cars.

In five years, cannabis careers will be large. I hope we have certificates in place so we can have better-trained people. It only makes a better industry when your people are trained well or are educated. I'm always for public schooling; private [can] get clouded with greed, and they lose sight of their focus. [We] definitely need to bring people from industry to create a trade school, trade certificates, or a higher learning program.

**Interview 4 Quinn.** I started our company with a partner; we invested a lot into cultivation. Then the city said the model is no longer any good, so all businesses closed down. We were able to hold onto the property. Because at that time it was still way too risky for people to invest. Wall Street folk were not interested in the way they are now. I'm a little conflicted [regarding the] good and bad in that. Big money is here, [but] there's not much room for mom and pop to get into the industry at this point. We lost revenue plus monies invested that we were never able to recoup. I chalk that up as a Harvard education, plus there is no way I would have been able to learn all this stuff without going through the process. There are shops by us that are illegal; you can get double the product for half the price. Is it tested? No. Are they paying their taxes? No. So we're just not on a level playing field, which is part of the struggle right now. There's only so much supply in the legal market, which makes it expensive, and there's a flood of untested product in the illicit market. We are working on cleanup legislation regarding taxation; I mean we are being taxed out of the market.



There's only so much we can do. I try to educate as many people. People that come to us [are] like, "Oh my god, it's so expensive, you guys are greedy." I'm gonna respectfully disagree because our margins are much, much smaller than the guy who's selling at half price [who is] not held to the same standards as we are. Unfortunately, not everybody is super-conscious of pesticides [and] molds, so the first thing I focused on was the cultivation part. We used to use a product called Eagle 20; it helps with powdery mildew. However, when this product is heated over 200 degrees, it turns to a form of cyanide. When we first [began cultivating], it was kind of the industry standard, everybody used it. I wasn't educated enough to know what harm it could potentially do. The point is if we don't figure [the taxes out], there's not gonna be any jobs. The people who are doing it the right way are going to struggle to survive. I do believe that it is going to get figured out slowly. We're not breaking even; we lose money every month. I'm behind with the landlord, we're not making ends meet quite yet, but we still pay the taxes. We're pretty hopeful that [authorities] are going to do what they said. If they can curb the illicit market and get the price down, then I think we will be okay. Now it's to the point where we're losing [less per] month, which is much easier to maneuver. So, we feel at the point where we're not going to be closing down.

To manage the stress, Quinn stated, you must have good relations with the people that money is due to, people who understand what is going on [and] are willing to work with you. But you know, the electric company is not willing to work with us; the city and the state want their tax money. I've been looking into yoga and meditation, but it has taken a toll on my physical health. And it's not just my personal stuff, everyone is trying to make ends meet, and I feel a sense of responsibility. [After] the city shut down all

dispensaries, we started collecting signatures, registering people to vote. Whatever savings we did have, we put back into trying to keep as many people employed as possible, whether it was collecting signatures or making phone calls, which is why we're in the financial situation that we are now. As far as coping with it, I just kind of kept moving forward. This industry is a rollercoaster ride, a lot of ups and downs. I'm grateful for where we are right now. I'm not a Wall Street guy who was looking at just cashing out. My parents were very conservative; when we first started this thing, they were like we didn't help you get through college so you could be a drug dealer. Once they came out and saw what was going on here – our demographics are not kids on skateboards, our median age is over 50 – they were was like, “Wow, I'm proud of you, what you accomplished here and what you're doing,” which meant everything to me. I knew what we were doing was right morally, I was okay. My conscience has always been clear.

A lot of the people who have been on the front lines are being pushed out of the industry because it's financially intensive to get into. The first time around it [cost] my life savings and my parents' retirement fund. This time around, I dipped into my parents' burial money. Hedge fund guys are sharks that are very business savvy but don't understand the industry. People who have knowledge are highly sought after by these financial guys. I get phone calls all the time, a lot of the places that are opening up are asking for experience. If no experience they want social equity, [and] these guys come in and manipulate every aspect of that. They know their numbers. They write pro formas [about] what they expect to get back; it's all black and white. There's no consideration for all the illicit [market], so a lot of people at this point are failing. These vultures come in,

scooping up people who have worked their whole lives. I wouldn't be in the position that I am now had I not led a ballot initiative, and said, "Hey, wait a minute you guys, after you kicked us out now, you're going to reopen the process?" We feel like we deserve the first bite at the apple. I guess the good thing about Wall Street [is it] gives us a sense [that the industry] is becoming more legitimate. If you guys are interested in investing, then it must be good, right? However, I'm in it for the underdog, Wall Street guys are not the underdog. The industry is going that way as long as corporate people with deep pockets are interested; Heineken is [in], we carry a product owned by [them].

To sum up the good, more information [is] being put out, is being accepted. Over the 70 years of prohibition, a lot of people have been missing out. [A] relative was having problems with nausea and lost ten more pounds; they were going to put in a feeding tube. [We] begged him/her to at least try cannabis because we know it's going to induce appetite and help alleviate nausea, two main [things] of their weight loss. It took all of us to try and convince him/her to try it, including his/her primary saying give it a shot. And he/she was still so skeptical, even though he/she has no idea what is in any of those pharmaceutical pills that they feed him/her. That 70 years of misinformation got him/her to the point where he/she was afraid to try a small piece of cannabis. Once we convinced him/her to take it, it helped.

The good thing of it becoming way more publicized and the big money people coming in is that it's going to help reverse the misinformation that's been out there. Until Sanjay Gupta came out and was like. "Hey, everything I've been saying for the last ten years might not be right." People's perception was, "This is bad, this is the hippie, the Mexican, the black guys stealing white women." Nobody thinks, "Hey, this propaganda

is being put out by the lumber or pharmaceutical industry.” If I had to pick one good thing coming out of the big money people would be the unraveling of misinformation that's been put out for so long. The bad thing is the people who have been on the front lines are pretty much just cannon meat; everybody here has been through the wringer and quite frankly might not survive the industry. We might get through it, we're hopeful, we're confident, but we're struggling, nonetheless.

We have retail, distribution, cultivation, and manufacturing licenses. I hold eight licenses with the city and one with the state, each one has an adult and medicinal use license. My goal is to cultivate a superior product for a lower price point. Right now, I can only buy from the distributor, everybody [adds a] tax percentage [and] you get a price point over market value. My goal is to come up with a great product at an affordable price point. It's not only the financially wealthy that can afford the better medicine. The price point [is] our issue. I talk to people every day about it because everybody who comes in complains about [the] taxes. When you go to the other guy who sells it cheaper, I can almost guarantee you that he's not paying those taxes. The money that you spend there is going to fill [the] gas tank of his Lamborghini. While here, at least, hopefully, it does go back into infrastructure and other things like that. Something [has] gotta give, because [currently] we are just fueling the illicit market.

I learned how to cultivate just by being involved. People think cultivation is real sexy when it's 80 percent janitorial. Cleanliness is the most important thing, and people don't get that. We have to trim foliage, if there's not enough air movement between the plants it creates powdery mildew – mold. Once that happens, you're pretty much swimming upstream. Some people they're very sloppy, they pick those leaves [off], and

they leave them on the ground for days and weeks, but that dead plant material also attracts other insects, and if you have a pile of wet leaves, you're going to create mold. Quinn highlighted a few qualities or competencies for people working in the industry: If it's the cultivation part, then horticultural; for manufacturing, a science background; retail, [then] customer service and sales. Personally, there is a lot of psychology involved in customer service. I'm sure you've been to a restaurant where there's a waiter or waitress is going above and beyond, but it's not necessarily sincere. Whereas I'm from the school [of] making a connection. I think in the cannabis industry customer service is a niche. For so long it's been, "Hey, I sell weed, you want weed you're gonna come to me because I'm that guy that sells weed." [We have] based our whole retail around sincere customer service. You have to be able to read people [and] we try to make a connection with everybody that comes through the door. Something that has evolved here is that we seem to be the dispensary that a lot of people bring their parents to. I think [it's] about educating as we go, it is truly a consultation. There are a lot of people that know exactly what they want. But then there are just as many people who have heard that cannabis can help certain things. We take the time to guide them to a product or a variety of products that could potentially help their situation. We never try to upsell people; we don't have a push list. Nobody is ever rushed out the door, regardless of how busy we are and who is waiting to be helped.

When I started doing my research and development, I [went] to over 150 retail locations. Quite frankly, a majority of them felt like you were going into a prison intake. Where other ones had a better vibe, more like a nightclub, or you know a gentlemen's club, with scantily [dressed] women [in] bikinis. I get it, sex sells, but that's not what it's

about. For us it's not necessarily attracting people with frills, it's more about getting people to what they need, to take the time. [At one of the 150 retail locations] I got this kid [who] was speaking very fast, and he's like, "Look man this is your first time I'm going to run it down for you. Here it is. This is the menu, the prices. I'm taking the time with you today because it's your first time, but after this, you have to know what you want." I felt uncomfortable. I was like, "Okay, give me this." I'm out the door. I didn't have a warm and fuzzy feeling. I knew from that day on we were not going to do that. We're going to be a place where you can have a conversation, a consultation, to get products that are going to be beneficial for you.

I had someone here purchasing a vape pen that was 95 dollars, and there was one that was 65 dollars but double the amount. I down sold him. He's like, "I've never been down sold in a dispensary, ever." I'm like, "Well, it's not about the upsell." That's just our philosophy here. Even the décor of the place is very welcoming when you come in. It's warm, it's inviting. There's air freshener, so it doesn't smell like cannabis in here. We basically show love; it's that simple. Our motto here is to treat everybody how you would want to be treated. I don't think Philip Morris is about spreading love. The only reason why I will survive is that love will not be lost here.

I'm pretty sure in five to ten years you will be able to buy a package [of] joints from 7-Eleven loaded with the chemicals and all that stuff. The fact that we do care about the plant, we do care about who's going to be consuming the plant, I think that's what's going to set us apart. You can drink Bud Light or a craft beer, and usually those smaller companies are the ones that care about what they're doing. If you have that craft beer and sell it for the same price that people are selling the Bud Light it's a winning

situation, which is why I'm hopeful for our survival. Our intentions are genuine, for that reason alone we will survive. Our game plan is to build from within; our biggest marketing at this point is word-of-mouth. And when people come in, they're like, "I've never felt so much love going into any other shop."

[Historically], the only education we could have gotten on cannabis is from knowing a guy. You had to know Uncle Stewie, who has been growing for 20 years. You know these generational cannabis farmers; they are not very forthcoming with information. Unless you just dug in, there was no way that any of this information [was available]. Now with all the legal markets coming up, you can find way more information on the Internet. But there is still no certificate. I was always a big advocate for higher education, but I'm also just as encouraging of vocational classes. I do feel there should be a way for people to be educated, especially [with the] industry in its infancy. I can tell you that it hasn't been easy hiring. A lot of those curriculums might already exist, classes in logistics [and] horticulture. You should know how to cultivate tomatoes. If somebody comes in with a degree or a certification in horticultural, they are on the top of my list even though it's not cannabis-specific. They at least have a background, but there's still going to be a learning curve. Honestly, I only see the pros regarding higher education preparing candidates.

Another factor is trust. [For] a long time, people have only hired friends and friends of the family. So, a trust factor is a big thing; I think we're gonna be moving away [from this] with more legalization. If somebody came to me with a certificate, I would be more willing to give my time to mentor and train that person because it shows a certain level of commitment, taking the time to at least get a formal education. And that

would put them to the top of the list. [Regarding] marketing and social media, [it] is so important to have people who are in-house. There are services that will manage your Instagram, Facebook, all your social media platforms, and they charge big money. Are they passionate about what you're doing? They probably think it's cool but not like somebody who is working here every day and sees what's going on. I don't think anybody can do it better than an in-house [marketer]. If you have some skill and marketing [abilities] then whoa, you're going to be able to go across many different platforms, it doesn't necessarily have to be cannabis. Just having a basic marketing education is good, but if [it] is specific to cannabis, you're just going to be that much better. We're not reinventing the wheel, all those [courses are] already there, but they have to be cannabis-specific. That is going to get somebody through the door. The government pushed us around for a long time. We used to pay lobbyists. A lobbyist can open doors, convey your message, but it's not you are giving the message. It's easier to say no to the person who's just representing [the] group. [Instead of] "this is who we are, this is whose livelihood [you] are toying with." It's not the guy that's representing us.

In five years, I feel cannabis careers are going to be more like any other corporate setting. I'm going to need a marketing department. I would like to bring what we're doing to other cities, possibly other states. When asked about recommending a cultivator to interview, Quinn stated, I can do one better. I'm going to talk to my buddy; he used to be our head grower here. He believes in the plant, in helping people. Nobody wants to share information because there was a risk involved with that as well. We never had the full protection of law enforcement. Prior to working in cannabis, if something went down, I'd have two squad cars [there]. I knew the police [were] going to be there to



cover my back. In this industry it was like, “Oh God, we got robbed. Should we call the police?” Because next thing you know, you're the guy in cuffs. We would have to call internally, “Hey, somebody came over here looking suspicious, was casing out the place.” Or “Hey, we were broken into, let everybody know.” We had to help self-police.

**Interview 5 Riley.** I've been self-employed almost my entire life. [My] training was trial and error, lots of trial and error. It's not an industry I ever thought I would get into, and I didn't know if I wanted to do this. Now I'm a huge advocate. I've seen what it can do for people, I've seen the health benefits. I love my career.

When we were a gray market/black market, it was awesome. The regulated market is a nightmare. It really is. Most people are just dropping out, they've just charged us so much money, nobody can stay afloat anymore. Regulations on our products are stricter than they are in baby food. Lack of regulation made the grey market awesome. We would make our product in the morning, and it would go out that day. Now it has to go to quarantine and distribution and the paperwork; we have 20 binders of regulations. Every time we drop a product, it takes two employees to dispose of it properly and sign all the paperwork. I mean it's just crazy. They've just over-regulated it to the point where it's very, very difficult, and everything is so delayed. We make a product in one day; it's not on the shelf and in the dispensary for four to six weeks because of all the quarantine and testing. I've done a lot of research to extend shelf life. And we also have a machine that adds an element to the package, so that also helps. So, we can get a few months to a year and a half [shelf life for our products].

It's going to take years [to change all these regulations] because the state moves very slow on stuff like this. I'm hoping they'll loosen up on some of the regulations; there

are some bills out there right now to lower the taxes. The tax is what's killing us. The taxes are so high by the time it gets to the end consumer [its] over 100 percent. People are still buying from the black market instead of legal places because it's twice as much. I'm hoping lower taxes will make a huge difference. When we buy a pound of cannabis, it's right around 90 to 100 dollars. We pay 45 dollars in tax just on the 90 dollars. Then it is taxed again when it goes through the city, and then it goes to distribution, and it has to be taxed again. Then the lab has to pay tax, and the retailer has to pay tax. So, it's taxed so many times. We're talking about our product [costing] 25 dollars. It's extremely expensive to be in this business. If we were starting right now, I wouldn't do it. The little guys are going to stay black market, or they're going to have to come into a facility like ours and have us white label for them. White label is contract manufacturing. We would make the product for them in our licensed facility because they can't afford to get licensed. It was 2 million dollars to build out our business. And that was a business that was already built out. It's very, very expensive. We did an original build-out when we were still black market, so it wasn't built to code. But I kept the building [when the city required all dispensaries to close] and just paid the rent, even though it was vacant.

[Regarding] competency, [knowing] compliance regulations [is a] must. I've read thousands and thousands of pages of regulations. I don't wait for my attorney to tell me, it's important that people take personal responsibility for compliance. Vividly understanding compliance or hiring someone that does. And you can get upset about that, or you can go, "This is the industry I chose." At the executive level, one competency is going with the flow a little bit. Things change all the time – recently, packaging requirements changed. There are a lot of people who spend hundreds of thousands of

dollars on their packaging. You can get really upset about that, or you can just go this is life in this industry. You need to know everything going on in your plant, to be able to troubleshoot, knowing the details. Having relationships in the industry is critical; having a great relationship with your lab, with your distribution company. I don't see others as my competition. We all work together. Getting involved in politics, as much as I vigorously hate that, there's no pot without politics. I got involved with the city council, met with the mayor. We helped write the ordinance for the city, getting involved in donating to campaigns, because we need their vote. Budgeting at the corporate level is also super important because everything is so expensive. We don't buy a small dollar amount of flower; we buy a large amount. We need to budget and plan for that, that's been tricky with the new regulated market. We used to put product out in the morning, got paid that afternoon. It was as simple as that. Now we have all these terms and budget delays, not just for the month but [a] quarter, even a year.

I have the greatest staff in the industry, they have been with me for years, even when we shut down. I paid them for the whole year partial unemployment, just so I could keep them. Having a solid loyal crew is extremely difficult in the black market. You always had the threat that if you piss them off that they were going to turn you [in]. We usually hired somebody that was either friend or family member because they wouldn't get you into trouble, but we still have issues. Had a couple of employees that kicked back on us [pursuing litigation] and we have way too many lawyers as a result. Loyal staff is critical, and they don't necessarily have to have experience in the cannabis industry. My extraction manager doesn't even use cannabis; he has been doing extractions for years [and] knows how to run all the machinery.

We're a member of a cannabis association; I highly recommend whatever city anybody's in that they join the association. That's what gets stuff done. The way that we help each other is, somebody else might be an expert [for] one of our machines, but I'm an expert at compliance. Somebody may help me with a specific product, or I might help them with a specific product issue. I do a lot of consulting with people on their manuals, their applications, sometimes for free, sometimes for a fee.

Knowing your market [is a] skill set that is needed because it's a very different market now. In a lot of dispensaries, 50 percent of the people are over 50 that are coming in. That was not the case before. It was more the stoners. Now people want to get off their medications and want to sleep. [Other skills include] knowing micro-dosing, if you're not paying attention, you're going to put out the wrong product. Staying up on all the analytics. Being able to raise money, one of the biggest cannabis companies just raised 34 million dollars. Having the structure of your company so that you're investable. Having the debt down, having good books, having good profit and loss statements. Being able to improvise. We had to get rid of one of our top products. Okay, so we got rid of it. You can't lose sleep over that. You gotta move forward.

I'll always go back to compliance because if you screw up compliance, you lose your license. Knowing HR rules and being very present in the operation is very important. Getting involved in politics, which is so painful because I hate it, but you have to do it. Definitely computer skills; everything is tracked and traced in our world. We have three different computer systems; you make a mistake, and your inventory is off by a percentage, it's a violation. And do it once they fined you, do it a couple times and they're going to shut you down 'til you get your act together. Knowing who to call for

what – this attorney is great at employment issues, this one’s great at licensing.

There’re a lot of people that still need 200 to 300 milligrams because [maybe] they have cancer. You can’t get that anymore without eating 20 baked goods; nobody wants to do that. [Also], I was really frustrated with the idea of [putting] 20 baked goods into one package. I just started thinking, “There’s got to be another way.” I wanted to make different dosing options and include a template so they could cut it however they wanted it. So, I sent the template to the state, and they said it follows the regulations. I was shocked that the state approved it. [As I mentioned] we had to get rid of our top producer because the variant on testing is 10 percent. So, if you say 10 percent is 100 milligrams and the product has 111, they literally destroy the entire batch. You can’t fix it, they destroy it. We can’t seem to get the cutting precise enough [for that product]. We’ve looked at a couple of machines; it’s probably something that we will come back [to].

Going back a couple of questions, as far as what people need to do to be effective, go to the shows! Go to MJBizCon, go to NCIA (National Cannabis Industry Association), join NCIA. I go to the expos too, that’s how I found out about new machinery and new automation. The biggest change at the shows has been all the ancillary businesses – the accountants, the compliance people, everything you can imagine. I would say probably a third of the booths now are called no-touch, they don’t ever touch the plant. They advise on compliance or accounting or HR or computer programs. The ancillary and the investment market have increased at the shows.

Being able to just be flexible and go with the flow and being intelligent are the hardest traits to find among applicants. They can’t just be worker bees, especially in

extractions. They need to be able to have a head-on their shoulders; if we have a batch that's off, we have to destroy it.

Other than trade schools, I don't see a general education being an advantage. It's nice to know how to fix the machine. Almost all my workers know how to repair any one of our machines. If they want a C level position, I would say business accounting and management courses. To work kitchen level, plant level, I would say trades like mechanical and computer. Our extraction manager has a master's degree in computer design – that is how he/she got into the industry. Somebody had wanted him/her to do a CAD drawing for a machine then he/she realized he/she makes more money running the machine than he/she does doing computer design. Computer skills and accounting are a huge plus. Baking is a science, understanding why that turned too dark, it's probably the time. No, it had too much air exposure. Chemistry is always a plus. I feel it'd be great if the community college trained people for the industry. You could have a pool to pull people from, which would be incredible – a pool that is a match for my business as opposed to being in a union shop.

Unfortunately, in five years, the cannabis industry will be very corporate. The big players will come in and buy up everyone. The Philip Morris and big pharma that's already starting to happen, mass consolidation. I doubt that I'll be in the business in five years. I'm hoping to be bought out by then, only because I want to be done. I don't like the idea of cannabis going corporate; it's a problem, and it's not going to go well. Canopy Growth and Aurora Cannabis are acquiring like crazy. Cannabis has been a craft to grow. It's an art, the growers, they're passionate about it. They love the plant [and] they love what they do. Corporate companies have built huge growth facilities. They grow

horrible weed. You should throw it away; it's so bad because they don't know what they're doing. It's very poor quality because they don't know how to do the nutrients at the proper time, to do a flush two weeks before they spray, to do light deprivation correctly, so [it] doesn't have as many trichomes, which is where you get the flavor and potency. It's like eating a generic Oreo versus some fancy cookie from a bakery; it's chocolate, but it's gross. People that have smoked for a long time will never buy that stuff.

You have generations and generations that have been growing and teaching their kids. [Today], guys come in, read a book, watch a YouTube, and think they can grow, and it doesn't work that way. Experienced growers have struggled. We all work together, and we all talk to each other. We don't have to sign a NDA's to answer the phone. I like the culture that it is now, or even more so what it was a year ago.

The black market made me nervous; we had a couple of close calls. I'm not sure how, but we made it through that. When we took over the business, we're in now, we built but not to code, and we weren't technically allowed to be here, and they found us. They never did anything to us, but they went to our home and said [to our neighbors], "Hey, what's the deal with people next door," and [they] wanted to look over the fence to see if we were growing in the backyard, which we weren't. They took pictures of our cars, they took pictures of our trashcans, which had trim in them, and so we shut down operations that night, moved out of that facility. It took us months [to] rebuild. It has been a very expensive lesson, more than [just] nerves. Then it got to the point where there were too many dispensaries, [and] the city said no more dispensaries. It was pretty insane. Illegal operations grew during the shutdown, and we were knocked off all over

the state. We can't compete pricewise because we have to pay all these taxes. They are punishing us for doing the right thing, which is unfortunate.

The state also just put out another bill giving 100 million dollars to enforcement. I hope they do it right. They don't think it through, how they do the raids. They don't need to have SWAT teams. It doesn't need to cost 30,000 dollars to shut down an illegal dispensary. I could do it for three bucks, turn off the power and fine everybody. It's not that hard. It's not the 1970s or 80s. It's not a drug cartel; it's a bunch of 22-year-old girls in skimpy tops selling cannabis. We don't hire people that stand in front of our booths looking sleazy. We don't do any sex sells even in our ads; our ads are very professional, and we are a professional company. We don't even sell skimpy shirts; we wear ones we think represent our company. We have a new demographic going into dispensaries. Maybe the 23-year-old stoner guy wants to see TNA, but I sell to 85-year-old women who are getting off their medication and finally sleeping for the first time in their life. They don't want to go in there and see cleavage everywhere.

[Another issue is odor]. There is an odor if you're doing extractions. We have three different filter systems in our building, and one of them is actually on the roof, it's gigantic. Where they're doing extractions, you can't even smell any cannabis. Ventilation held us up quite a bit during our build; we had to wait two weeks for them to come out. [As] far as education, air conditioning, and ventilation would be huge [opportunity]. Air conditioning is critical; you can have 10,000 dollars electric bills if you don't do it right. Also, if you don't keep the temperature [and] lights exactly right, it can have a very negative impact on your plants.

The regulated market is cost-prohibitive for the craft growers because they want



to grow 10 pounds of this and 20 pounds of that, that's what people want to buy. It's thousands of dollars every time you test, so it's cost-prohibitive, they can't do it. [Crafters are] going to get mowed over by corporate. It's impossible right now because of the way the regulations are. They would never survive, ever, not even a month. The true craft growers, most of them have chosen not to get licensed. [It's] not even about the money. They're not going to go through all this crap for a plant. If they change the regulations considerably, then I can see [the craft market] coming, but I think it is years before they can do that. They're the ones that have pushed this movement for 40 years, and now we're saying, "Sucks to be you." Only the big players are going to play. It's very frustrating. It's generations; their great grandfather probably grew on the same land, and it's very personal to them. And so, they're struggling with that as well.

**Interview 6 Jesse.** Regarding college, I pretty much I took all the classes available for food and nutrition, communications, and psychology. I love learning, hate being stagnant, and I want to be a lifelong student. I would probably initially go back to school to get a degree in botany and chemistry as it applies to the nutrition and processing of the plant. I dropped my first seed into the ground when I was a teenager. I instantly fell in love with this plant, partly because I wasn't supposed to be doing it, but I was also seeing this little seed turn into this plant. I have always loved art, engineering, or creating things from nothing, so it was an easy fit.

I started supplying clones to a business I felt very welcomed right out the gate. They went from "Hey, what do you think about making clones here?" to "Hey, do you want to take a look at our grow?" to "Would you help us with the grow?" This happened in about eight months. Then it was "Hey, would you take over the grow?" The local

paper did a feature on us; it just snowballed from there, I never looked back. I [then eventually] started my own business.

I got into cannabis in the first place because I had a medical condition. I found out pretty young weed was a way to not have symptoms as much and not care as much when I did. It relaxes your muscles and helps with the pain; any alleviation is a Godsend. Prior to that, they wanted me on medication, and I'd seen the results of that on people, I wasn't having it. My buddy said, "You ever notice the stuff you grow you don't have symptoms when you smoke it?" I never paid attention to it. I found I didn't have the same levels of stress. I started liking myself better. From that point on, I made it part of my life. Just my close friends knew that I grew; I just always kept it a secret, there were legal ramifications of course.

My family always knew I was passionate about weed. I never smoked around them, but I would always talk about it and was very educated on it. So, they knew it was a big thing for me. They didn't know how big; they were still under the assumption that I was doing a different job. It was shortly after [the local feature in the paper came out] that I told my folks. The immediate look on their faces was pretty obvious; it was concern and disappointment, but they were very trusting of my decisions. They realized that a lot of my behavior related to my ailment had disappeared. They knew I had put in quite a bit of thought, but they were very concerned. All they would initially talk about was their level of concern. The subsequent trips [home] were just more of the same – very concerned and cautioning me, telling me horror stories and trying to get me into different trades. This lasted for months. It must have been a year later they realized this wasn't going to change. Then it went from concern to questions. They started asking

questions, questions using this for arthritis, for epilepsy. Within about a year and a half, my parents started clipping out every article in the paper related to weed, and then it just became a regular conversation. Maybe three years later they started being proud and telling friends what I do, coming to my defense when somebody had anything ill to say about it, not because I'm their son, but [because of] understanding and education that enabled them to hold a conversation with people that were ignorant of the laws or the plant itself.

I have always maintained my own grow. [When] I don't have a commercial place to grow, I keep my mother genetics at home. I maintain some of the same strains because of the flavor, taste, aroma, and they work for my ailment. So, I keep those genetics. I've maintained the mothers of about a dozen plants over the years, and when they get too old, I make a new cutting and then re-mother them. The only time I've ever replaced any of them is if I find a better version of that same plant, but that is very rare.

I've gotten a lot of offers to grow on a large scale. I probably grow better than I do anything else related to cannabis. I relish seeing the plant every single day, going through every plant, looking at what the plant is [expressing], not based on somebody's recipe, but [on] what the plant is telling me, and where it is in gestation. I love growing. I'm good at it. I grow top-shelf bud, whether it be hydroponic soil or otherwise. I know how to grow in many different mediums and environments; it's something I'm super passionate about. It's very important to be able to get my hand back into growing. Over the years, I've had a lot of opportunities to do it, but it just has never been the right fit.

Everybody's an expert in this field when it comes to growing weed. I am always learning more about the plant. I can learn something from anybody who's been growing

for a while, who is not too full of themselves. I'd like to believe that it's a skill set that's prized. The learning curve is a lot different these days because of the amount of information out there. When I was younger, it was trial and error. If you were blessed enough to know a grower that would trust you, you would learn firsthand, but that trust was super coveted and very rare. The *Indoor Growers Bible* or something like that was the only book out there. Nowadays, with the Internet, you can learn in a matter of a couple of years, which took me ten years of trial and error. But I would say probably the most important thing is passion, you have to love it. You can't skip steps, and you have to love it. I'm more passionate about growing than anything else. It is something I never get sick of it. I would love to go back to growing. It's something I love doing. I'm honored anytime somebody asks for my advice or wants me to look at something. I'm humbled. I love giving my advice on something like that or just getting to witness the fruit of somebody's labor.

[It's] obvious [to] me the plant is like an infant; it needs so much attention. The biggest thing I see with commercial growers and growers that consider themselves professional is that they start neglecting [the plant]. They start wanting to automate everything. The most quality bud I see consistently, example after example after example, is [from] people who are putting their hands on the plants. Hand feed, walk the plants, go row-by-row, plant-by-plant. [You] can look at the plant and just by the blades on the leaves, the height of the plant, the girth and the boldness of leaves say, this is this plant, this is that plant. It's quickly being lost to the whole, "Let me put a lab coat on, walk through a row, and show the world what I'm doing and why I'm the best."

More than anything else, growing weed will humble you. When I was learning

the most about the plant was when I had next to no money, so I had to jerry-rig systems together from lighting to exhaust, to scrubbing the air, you name it. I had to come up with hydroponic systems built out of storage containers and aquarium pumps. There was no prefab stuff. When you go through all that, put all your energies into it, with what little money you do have, and you destroy the plant because you didn't know your environment well enough, or you didn't pay attention to the plants, curling from overwatering or too much humidity and now you have powdery mildew, it's extremely humbling. And if it isn't, then you're not learning. I learned a lot about less is more. You can always take more, but once you've taken too much, it's in there. Plants are the same way. You can go light on something, and if it's deficient you can add more; but if a plant is toxic, it's really hard to bring that plant back to health. It can be done, but you want to pay attention to those things. It's kind of got me to slow down a little to appreciate things a little bit more, respect how much nurturing [it] takes before you see the fruition or the fruits of your labor.

My business is a perfect example. We currently have two licenses, manufacturing and distribution. It's really hard for me to appreciate how much it's taken to get here. It's easier for me to hear from somebody else. With the plants, when they're respected, treated right, there is a difference in their health; they're standing at attention. Once you recognize what optimal plant health is, [the plant] does kind of speak to you. You can start dissecting, "What did I do wrong and what am I currently doing wrong?" And likewise, "What do I need to do to bring this plant up to its optimal health?" It was in the 90s, maybe even late 80s I was reading about plant health-related to playing music. So, I played music for years and years and years. I noticed the more attention they got all

around, whether it be through sound or growing in nature versus indoors, they seemed to respond better to their natural environment. I don't think you can beat nature. I've tried a lot of different tricks, and they seem to do best when they are in their natural state. [An] artificial environment is hard on the plants. I always prefer outdoor greenhouse, light supplementation fine, but outdoor greenhouse versus indoor for taste and effect. There's definitely a different taste to soil-grown and a different effect to an outdoor greenhouse plant. It's so much more enjoyable to be out in nature, while you're growing the plant. [In terms of] competency, Jesse pointed out you need to be on top of the laws and regulations, the hippie stoner days are gone. You could be just a plant guy, know everything you need to know as it relates to the chemistry and the botany of the plant and be fine; however, behind that guy are lawyers, CPAs, tax attorneys, financial analysts, people with skill sets [in] inventory control, customer relation management systems, social media, and marketing, before you were the person wearing all those hats. [Today] you need help in those different areas. One of the hardest things for me is asking for help. I've never been good at it. The most important thing is being able to self-educate, being able to read a bunch of crap and digest it into definable chunks that you can then put into play. Because there's no more guessing, there's no more we did our best. There is no gray area. It is absolute; it's the letter of the law. You have to go through hundreds of pages of information to find out what applies to you, whether it is as a manufacturer, cultivator, distributor, [or] lab. You have to be a hell of a communicator; probably first and foremost, you need to be able to communicate very, very well. I hate email. I have a hard time with communication when it comes to devices. I don't treat my phone like a dog collar. In other words, I might not pick up the phone right away; I'm in the soil,

whatever the case may be. I can't afford that luxury anymore.

Everything is time sensitive. Regulations or law changes are so extreme; you can lose thousands, tens of thousands of dollars in packaging. So, you have to be able to communicate with the people writing these regulations to find out the right interpretation; you're not going to get the answers always and very seldom going to get those answers the first, second, third [try]. You may reach out to the Bureau of Cannabis Control, who then points you to the State Department of Health, who then points you back to the Bureau Cannabis Control. Stick with it and communicate even when you don't want to because these people are not from our industry, they don't care about cannabis. They don't particularly care about cannabis users. For them, it's quite simply a job. The people with the most influence are the ones that are going to write the laws. You need to be an activist. This is a period when the laws are changing all the time. You need to now get active, go to the state capitol before the laws are passed when it's an open forum and they're asking for a dialogue. You have to be a part of it.

It's a really tough answer for what skills [are needed]. You need to be pliable and versatile more than anything else. You have to be able to pivot in this industry. My advice to people trying to get into this industry is do not unless you love it. [It's] the Gold Rush days, just sell shovels. Find an ancillary area that doesn't make you put your hands on the product, do that if it's about money. The last cannabis show I went to, unlike all the shows before where it was a bunch of stoners, was all lawyers and marketers and distributors. It was a bunch of collars and ties, people I don't readily identify with, they aren't my people. These are all people who don't give a damn about the product. It's now money. I'm very turned off by that. If you want to make money in

this industry and that's your goal, stick to the ancillary, make the packaging, the latest joint holder or tube that it fits in. Be the marketing guy, the insurance guy, [or] brand ambassador. Cush bottles come to mind, they are 100 percent an ancillary market, and they are smashing it, and they don't have to worry about regulations the way we do. All they have to worry about is, do we have enough inventory? The vape companies are killing it; they're branding products. Stick to the ancillary, it's safer, and you don't deal with the nightmare of regulation. But if you're passionate about it then start learning all you can now, ask a bunch of questions, make a lot of friends, and use those people as resources. Likewise, offer to be a resource to people when you're asked for help because it's the only way, you're going to get that return. My biggest strength isn't my understanding or my skill; it's my Rolodex. This industry still is so tightly niched, it's still such a small circle, and we know each other. If you get a bad name in this industry, it's going to stick with you. I would like to believe that quality growers and people who know everything about the plant are always going to be coveted, but I don't think that's the case.

Being innovative is great when there's an even playing field; that's quickly not becoming the case anymore. I see this is very quickly becoming a pharmaceutical and commercial play. Banking is not going to be allowed until big business decides it's going to be allowed. They're not going to open it up to us small players. They don't care that we came from cannabis. Big business is going to take over; it's going to be unaffordable for the Ma and Pa shops to sustain. I don't see it being a future where people can survive on the margins that Marlboro, Corona, and Bud Budweiser can; these companies are now buying in the hundreds of millions of dollars into this industry. Unfortunately, the most



important thing in the future for being successful in cannabis is having a huge pocketbook and huge political pull; it's just too big of an opportunity. It stands to destroy the tobacco industry, to seriously disrupt the farm and pharmaceuticals industries. This is crazy sounding, like such a hippie. I remember when I was younger, the hippies would talk about the medicine, and it's only illegal because the government can't tax it. I was like, "Man I don't want to hear your Birkenstocks, patchouli wearing, granola-eating hippie-sharing shit." Now I'm finding out these guys are right because they loved the plant the way I learned to love it and were older than me and had a good understanding how politics and business works, but I didn't want to hear. I think big business is going to take over, and they're going to kick. It's going to be unaffordable for the ma and pa shops to sustain.

My team, largely, are the bosses, they run the show. It's my job to make it possible for them to do their jobs most efficiently. We built a culture, like a family, there's a level of respect across the board even the lowest levels of positions, which is weird to talk about because there is no such thing, every position is critical. I want people to take responsibility for their mistakes. You need to make it okay for them to take that responsibility because in every other job they've ever worked, it was not okay. Quite a few people who didn't make the cut were too entitled, too self-serving, have trouble with honesty, can't be sober during working hours or can't work high. You can't take anybody's resume or application. Largely, the people that I have working with me, there's accountability. Building this business is finding people you can trust they're going to make the right decision. The ultimate dream would be to work with people that still love it for the passion of it. I'm extremely biased in that the people that I largely

know are very weed snobby, so they only want the best of the best. They can look at something and right away know from smell, taste, look, whether it's top tier or not. There's always going to be those people that want that product. I hope there's a future for the hippies or the youngsters. I despise a lot of what I see, the kind of people that are getting in the industry. And it's not all of them, it's just the majority of them now, unfortunately, unbelievable scammers.

Community colleges could offer courses in cannabis history, biology, botany, activism, and explain why people like me don't like using the word marijuana. Once the pharmaceutical industry gets involved, if we don't stay active, we will not be able to grow weed; it'll go back to being a schedule 1 drug. It's important for them to understand that this plant was a medicine before it was even called the medicine; yes, it's a drug, but it is a natural drug. It's such an important plant that if we don't control the destiny of it, the powers that be will, the government will, bureaucracy will, and pharma will.

**Interview 7 Sage.** It's hard to live in my state and not get an education in cannabis. I was just raised where there's always been the sharing and giving and passing of information. So, it's cultural. [I've] just been a grower for so long, it's been a way of life for me. I have started to transition my growing for commercial production, [and] everything changed. I had to take all those years and get more sophisticated in a very short amount of time in terms of my growing, drying, and curing. I've been working on business development. I started product development, [and] I also started to transition into a business model. It's like becoming a student again and having to learn all these new skills.

[As] a cultivator we're the bank and the credit for the rest of the industry, we

don't have access to capital, and we are at the bottom of what's a capitalistic system. It's terrifying. We're starting out as risk-takers; we face tremendous obstacles. I have customers, but I don't have a market because of retailers. Our margins are getting slimmer and slimmer, and I don't know if retailers have had to quite take the cuts that we have. I think they've been passing a lot of costs onto customers. Three things that make life difficult for us: representation, distribution, and payment. Representation [includes] marketing, while distribution has no incentive to sell our products. The other issue is getting paid. Who is going to defend us when we don't get paid? How are we going to get that money? We have to market. We have to do every single thing as farmers – grow it, pay for transportation, pound pavement, and market it. I have customers that want top shelf outdoor quality, but the retailers will not put me on the top shelf. Generally speaking, the retailers are keeping me from my market. I'm just saying we face a lot of issues to actually be successful in the marketplace.

The difference [in products] is subjective. There are quality differences. I'm not going to say one is wrong, and one is right, but there are two different types of people. There are people that say having all that environmental control with an indoor grow is what produces and allows the genetics to express themselves. And then there are people that say it is not the hand of man; it is mother nature that perfects it. I do less intervention with dry farming, and no fertilizer, kind of *terroir*-driven type of cultivation, [which] is a French word used to describe a sense of place. It means I don't irrigate or use any water after I [place] my plants in the ground, in the field. I'm like the opposite of manipulation. It's just two different [approaches], and that's okay. I believe that we should be represented equally in the marketplace. There are some differences in terms of

appearance, flavor, and type of high you feel. There are basic quality standards to either indoor or outdoor. It has to burn in taste good to the end of the joint. It needs to have full flavor, needs to be properly dried and cured.

Years of experience growing, farming and cultivating cannabis [would be a needed competency]. Observational skills [are needed too]. Farming and cultivation are very much about observation, but there's a tendency only to see what you want to see. Without being present and making observations you'd be surprised how many things can get past you simply because you weren't observing. Bugs are probably an obvious [example], someone could have a full-on bug infestation and not even notice it. It is crazy. But if you don't have any experience or you don't know what to look for you won't even see it. You want to cultivate a kind of presence when you are farming. If someone has mastered or had a lot of experience with another crop, they could probably pick [cannabis] up pretty good.

We need farm owners [to] develop management skills. I feel that I face a lot of the same problems that any small business owner has when they go to hire. It comes down to, in a broad sense, how our country is educating youth and how people are coming into the workforce. It's a challenge to find workers that are well-adjusted. A lot of people have issues with authority, and then they bring that to work, and that is a problem. When people are working for me, I want to set them up for success, to give them the best experience that they can have. Then it would go to their head, and it's like, "Oh, I can run this farm better than you." A lot of people they're too self-centered, too much ego, they don't have the presence, and that is a challenge. I don't think my situation is so unique. I have a philosophy about how I grow, inviting people to make

observations, and I create learning opportunities. It's just having the right kind of attitude. With the right kind of attitude, you can train people.

Part of [the problem] is because there isn't formal education around [cannabis]. So, then people feel like they can challenge you, they're their own expert, there's just a lot of ego. There's also a group of people that's coming in that are very new, and they're incredibly grateful, and that is nice to work with. They're like, "I can't believe someone's paying me to work and be with this plant and do this job." And they're just very grateful, and they listen, and they take direction, and they're curious. The other thing that's going to improve [this situation] quite a bit is going out into the marketplace and being successful. Workers will listen to me because they'll be like, "Look, we have customers, we're successful in the market. Let's keep doing what we're doing because it's the right way to do it." It's like becoming a brand, becoming a business, and becoming successful. All of these things will help with the work culture significantly. I'm trying to stay optimistic, but it has been a challenge.

[I think] community colleges can prepare candidates by [teaching] the growth cycle of the plant, horticulture, everything from propagation to growth habit, harvesting, drying, and curing. The drying and curing is a little bit of an art. Just growing [cannabis] and knowing the types of pests and diseases would be helpful. The botany of cannabis would be great. I support vocational skills and community colleges and their role in the community. A course in cannabis botany would be helpful, understanding the growth of the plant, understanding basics in how plants take up nutrients and water, especially when the plants are in the nursery phase. That's when you need to understand nutrient deficiencies and quite a bit about pests and diseases. So, nursery practices would be very

helpful, data collecting is a good skill to have and a little bit of management [skills] too.

I'm producing quality [goods], and I anticipate there will be more appreciation [for] quality in five years. It will be more competitive in terms of what farms people work on because there's going to be better candidates. Workers will be more confident about what they're doing. I've been touching this plant for my whole life; I have just been around it for so long. And then I meet people who've never seen or touched a plant, and it's just so different, their perspective. Also, it would be cool to have farm exchanges; budtenders could do work on a farm. Have people come at harvest to help bring in the harvest.

**Interview 8 August.** I currently have multiple mixed type one licenses and [a] distribution transportation license. I'm in the process of trying to obtain two retail licenses. [I] do more of a hybrid system that's more like an indoor, and then I have a controlled environment. When I want to open up the roof and let in the sun, I can turn off [the] lights and save money. I'm going to be able to grow the same quality product for a third of the cost [in a] controlled environment and solar straight from the sun. My education's all been hands-on. Screwing everything up many, many times; that's what I can attribute to making me as good as I am. You know it's just been because of the love for doing it. At first, of course, it was monetary. At the time, we all thought we were going to get rich. I was like a pirate, breaking the law and making money. You were a normal person during the day and this narcotics manufacturer by night. [When] I first started it, I got as many books as I could. There weren't [many] available at the time, it was a taboo thing.

I'm pretty much at the top level, the people that [were] above me, which I worked for years ago, I passed them up; they didn't go legal. The only other thing above me at this point is big, big money. The programs I've taken advantage of have to do with getting more square footage based on remediation and relocation. I took advantage of a program and used it to stack licenses. The licenses, they're not that expensive. I think it was 1,400 dollars to 2,800 dollars. Everything else is crazy, like a building in a certain city it was 28,000 dollars just to apply, and that's non-refundable. There is no sense [in the cost]. It all has to do with greed that comes from people who know nothing about our industry, thinking that all we do is make money, hand-over-fist when I'm still at work right now and they're at home. It has to do with the politicians and the way that they're trying to sell to the public – the excise tax is going to save all our problems, hallelujah. And then people see those kinds of numbers, and it's easy for them to put it on the ballot and get a vote on a fucking tax ordinance than actually being upfront saying, “Hey we need this.”

Regarding qualities or competencies, I find one of the hardest things is somebody who thinks that they know what they're doing. [The] farm manager wants his stuff handled. It's like construction, there are four or five right ways to do it, and there are a million wrong ways to do it. Like basic common sense, things that people don't think of. You tell somebody to remove some leaves, and they remove every single leaf all the way up the plant, and they don't understand that the leaf is how this plant does photosynthesis. Those kinds of things are wrapped up in common sense. Being timid is hard too. If you've never touched a rack of clones, and you're going to try and break those apart and plant them in four-inch pots you're not going to feel comfortable. It's just one of those

things where you have to keep touching it. You have to do it with the person right there – transplanting, turning the plants over and touching the roots. It's a delicate flower; it's a very special plant in the way that it's consumed and what we're growing it for. You look at different farm workers and farm culture, and they might be taking fruit and throwing it at each other and laughing. Every single flower needs to make it to that next step; it does damage the more it's handled. That's what got me looking into some intern externship. They could work here and learn things. Cannabis is the coolest thing to work in right now. You're either working in tech and phone apps or cannabis, that's what everybody wants to do right now.

Skill sets needed depends on where you want to focus; there are some specific things to focus on with each facet of that business. If you're going to be in extraction, it's chemistry. If you are involved in cooking then culinary, business, then business school, distribution its logistics. Trucking looks at business models from previous distribution companies that have done well. As far as the retail side, it is very important for people to be knowledgeable about the endocannabinoid system and how the products affect people. Is it important for somebody growing cannabis to know that? No. Is it good for them to know that? Yes. That's the thing, we've been shut out from a lot of education because studies haven't been available.

There are a lot of different agencies working on certificates. Different classes online, that's great, but you could sit there online and take a million classes or sit in forums and have ten different idiots tell you ten different things, and that's not going to help me make money. I want to be involved. Setting that standard is even bigger so that way people do know. If somebody did come to me and they went to Oaksterdam



University, and they could show that they took all those classes, that would mean a lot. Right now, the biggest thing for me is hiring people that live here. A lot of the workforce that lives here is in and out, they're seasonal. Then I don't have to keep retraining, and I don't have to worry about them bringing in contamination.

[Being] coachable and willing to do anything are hard traits to find among applicants. Growing weed isn't always touching plants; it's cleaning up, cleaning barrels, getting nutrients ready. It's kind of like Daniel and Mr. Miyagi; you want to play karate you gotta clean the deck. Community colleges could open up to sister colleges within the state that are in different areas. For instance, if there's somebody who's really on their game to work in a dispensary, they could come to one college and take some classes. The people who are writing the curriculum need to get involved with real farmers, [not] big companies. Family farms more of the four H style, that's what has made certain farming so good. It's passed on family-to-family, and you can work with younger people. I think working with people that have been rooted in the industry to help with the curriculum [is] big too. An approach [is] to come up with some survey [regarding] curriculum. I feel like a specific cannabis association has been bought out, but [not the] local Cannabis Growers Association that's full of people who have paved the way. They're the same people who made all this stuff [happen]. Anybody who's jumping through the hoops right now, and it's not that hard to do that, they haven't been doing this for very long.

Dryland farming method is so cool, and the product from it is fucking unreal. The problem is it's a high-end product; it doesn't look as good as the indoor product. When you grow outdoors you have all of these environmental stresses, too much or little sun,

wind, cold. For the plant to shield its flower and its way of reproducing it produces more leaves [that] knock off very delicate trichomes and different things that the plants are producing. It's not to say that it's not going to get you as stoned, it's [just] not going to have as good medical value. The indoor is going to smell, taste, and look better and that all comes down to the controlled environment – the fans, the 78-degree temperature during the day, 65 at night, and it is exact. You spend that money to create that product, and it shows. I think artisan quality is my only shot in having a product that is wanted by the public that can hold a value.

I see nothing but benefits working with higher education. [If] somebody's going to pay the money and sign up for a class to learn how to do this, that's the kind of person I want to hire. If it's going to teach them something that they can turn into knowledge and then I don't have to micromanage, or I don't have to pay to teach every time somebody [new] walks through the door, then I can actually make money. The local city college really wants to put together [a program]. [If the] school depends upon their [own] knowledge, they would just be offering something that's not going to have any use, that would be like [the] whole green rush mentality. I think that would be the worst. It's a really special plant. As far as its likeness, it is close to humans with female and male [parts] and just their reactions to different sounds and different environments, the way it is reproducing is pretty neat. I think that would be a good little book [showing the stages of growing a cannabis plant]. [Taking] pictures [of] your final bud and cure. It would be neat to be able to sit there and have somebody be proud of what they did. I wish I could be more involved with an apprentice program with kids. I can't get those kinds of people; I can't take advantage of those kinds of programs. There's nothing there, [no]

infrastructure. It's one of those jobs where there's a lot of training that could be involved. And there are a lot of good-paying jobs that could be had, but everybody's just either turned away because it's been illegal, or it's been tough for us to trust people. That's why we've been hogtied into not really being able to grow into a bigger business. The only person that could know was my brother and my generator mechanic, that was it.

I hope that good-paying jobs that require you to [have] some form of experience or education [are here] in five years. I hope it just doesn't become something that's flooded with lower [skilled labor]. I would hope it would stay more specialized than farm labor. I think that's the difference between the artisans. You're always going to have your nice wine. You're really good years of certain wines that are so good. That's going to be the same thing with certain crops or certain strains. And then you're going to have these people that are growing oil, that's what I call it. They're not growing weed. They are not growing flower. They are growing oil. They're growing it to be mass-produced, cut down, frozen and extracted, and that's a whole other game. And if I have to play with that, I would go out of business. The price per pound that you get for the amount of work that goes into growing this plant on any level, unless you've got four acres plus, you're not going to make it. I've done the numbers over and over and over and over. A lot of people trying to grow their business are going to have to run compliance, run safety, run [a] business, and not just grow the plant. As much as farmers would love to sit there and touch and play with plants and water and do all that, we have to run a business now.

When the Schedule 1 status changes, that would mean a lot of big changes. That's why I like having managers that [are paid a] good salary and get paid bonuses, because

some nights we're here. Like tonight we're just setting up our heaters and getting things dialed in, and I'm going to be turning off lights for the first time. That's not something you just leave at five o'clock and walk away from. If I had to pay somebody based on all the labor laws and everything we have in overtime, it would be outrageous. I have four full-time guys, and my labor bills are at least 4,000 dollars or more a week.

It's a shame that we haven't been able to collect data throughout all these years to use to our advantage. It's been tough to keep going. I feel like the pioneers are taking the arrows, and the settlers are going to get the land. I have to be careful to make sure that I can keep the artisan status and quality control. And that's where my next level person that's getting performance-based pay is going to have an opportunity to do well monetarily. As simple as the cliché sounds, the farmers' footsteps are the best fertilizer. It's just knowing the feeling in the room, how to remedy that. If it's too hot or too humid, too much sunlight, it's that very medium that you need to know. It's kind of a hard thing to teach and write down. I'm in that position right now, and I'm trying to teach people to do these things. I have such a muscle memory like cutting clones, doing a 45-degree cut a certain way, certain size. I don't have to measure it, and every single one is the same size. Then I hire somebody to do it, and they're like, "Okay, so how big is that?", and I'm like, "I don't know, it's a little bit bigger than your hand, and you cut it."

We've played with different vibrations, pitches, noise, and music in a controlled environment, and we've noticed different reactions. It's a very finicky plant like you can tell when it's not happy if you spend enough time with [it]. The way the position of the leaves, the way that they're reaching for the light or the sun, the way they react to the nutrients you give them. The weirdest times of the day, sometimes when they're getting

that perfect light, they're like opening and closing and breathing, and then the green almost turns to like a blue color; it's weird. There are just so many little things that happen throughout, [every] single strain is a little different. I feed something a little different or will give it a little bit of a different light schedule, and we'll see different results with the product, whether it's better or worse. I've never heard anybody mention those nuances. Maybe people who deal with delicate flowers would say something like that. A lot of farmers are scared to move from commercial access, and I think a lot of that has to do [with] propaganda right now. I'm curious if the propaganda is being put out there by investment firms and big money people. All of the things I read in the Dow Jones or *Wall Street Journal* or anything having to do with the cultivation of cannabis, it really does basically tell you to stay away from it in any and all ways and put your money into every other sector. It's one of those things where I'm in that sector, and I see the money being made left [and] right, up and down through manufacturing, cultivation, distribution, dispensaries. And there's a lot of money to be made if you know what you're doing. It's just like, any other manufacturing, if the person who's making the raw steel isn't making enough money to run their shit, they all raise their price. It's funny, it all comes down to a lot of the greed. At another level the dispensaries are making 400 to 500 percent, so that's the other issue.

I've been involved with both. I don't have an open shop right now; I did have a rogue [shop], so it was a little different. But most of these companies are doing this on big levels; they're vertically integrated. As far as to state tax law, if they're smart, they're showing money on their cultivation, and they're using all of their overhead and write-offs on the dispensary distribution end. They're not making any money there, and they pay

more for their raw product. That's the one kicker. Cultivation doesn't fall into the [same tax category] because of the ag[riculture] laws. We can write off a lot of our stuff. So, I mean, it depends on how you're playing it. But a lot of those shops, they do have to figure for not being able to write off their overhead, and they do have high excise taxes plus sales tax. What doesn't make sense is they're crying about all this shit, but they hand it right off to the consumer and they pay all that upfront. Plus, their fucking markup, I walk out of the store in one city and pay 80 dollars for top shelf and in another city pay 35 to 40 dollars for that same out the door. That's why I've been trying to open a dispensary, I know I can put product on the shelf and out the door for black market prices and have a good tested product. But I can't get a license because I won't pay to play. I won't make campaign contributions to do what I've been doing for years in my hometown. I'm not going to fucking do it.

The pay to play I won't do, that's 150,000 dollars that you got to put into someone's campaign fund to get it in front of the planning commission. If you want to get your conditional use [permit] actually on the calendar to be heard by the planning commission, at some point, you're probably going to have to make a pretty good contribution to one of the city council members or the mayor. It's the worst thing I've ever seen. Everybody thinks that all of us are just making money hand-over-fist and since it was illegal and now it's not its some weird thing where they can line their pockets. It's horrible. They don't care about us. They put us in jail. They put us in jail for forever; they took away fathers from kids and everything else. And now they want to turn around and take money from us just to let us do what we've been doing forever. It's crazy.

It's already starting to flush out, Google it. It's everywhere. The biggest one the FBI started to investigate just hit a while ago. I'm a small guy, and if I was getting hit up to grease palms left and right, I'm sure some big guys were, you know. People are going to lose their positions; they're going to get arrested. It's going to become obvious that it was more extortion or bribery than it was an actual donation. It was like, "Give me a donation for my campaign, and we will go ahead and make sure you can rock this." Those are the people on the up and up. The other people that get straight cash handed to their uncle or cousin or whatever on the back end, that's a whole other deal that people don't talk about. They'll get caught. I already see it happening. This [will be] a benefit for the society, for our local economies, to get those people out of the office and get real people who care about stuff and not monetary gain.

### **Summary of the Findings**

The researcher gleaned from the interviewees' recommendations for creating a cannabis educational program that would potentially meet the needs of the cannabis industry. The following seven themes emerged from the phenomenological interviews: love and passion, relationships, professionalism, compliance, cultivation, advocacy, and business acumen.

**Love and passion.** The phenomenological essence that emerged from the interviewees appears to be love and passion – a love and passion for the cannabis plant as a whole, and more specifically, for growing cannabis, the medicinal properties of cannabis, and what cannabis can do for others. The interviewees tended to have awe and wonder for this ethereal plant. They also had a love and passion for their customers beyond the usual customer service. They weaved love and passion into their words, it rang in their voices and inflections. Throughout recorded history, humans have embraced, cared for, and personally used cannabis. Evidence dating back

12,000 years suggests cannabis is possibly one of the oldest plants cultivated by humans (Russo, 2007; Warf, 2014). Siberia burial mounds contained cannabis seeds dating back to 3,000 BCE, Rames's II tomb contained cannabis pollen and cannabinoids, and cannabis seeds in Viking ships date back to the mid-9th century (Warf, 2014). More recently, in 1860, the Ohio State Medical Society organized the first clinical cannabis conference in America (Zuardi, 2006).

The growing of cannabis has been a craft. It's an art. Growers love the plant, they love what they do (Riley, personal communication, January 29, 2019). According to several interviewees, budtenders were acknowledged to be incredibly passionate and knowledgeable about the cannabis plants. "Caring for the cannabis plant is like caring for an infant, it requires focused attention" (Jesse, personal communication, February 14, 2019). "When we hire, we are looking for people who hold "a passion for what cannabis can do for people" (Angel, personal communication, January 28, 2019). Quinn stated, "At our dispensary, we basically show love it's that simple; I don't think Philip Morris is about spreading love" (Personal communication, January 31, 2019). Lennon acknowledged a love for cannabis was the inspiration to continue working in this profession despite all the challenges associated with the legalization of cannabis (personal communication, January 31, 2019). "During the weirdest times of day, when the light is just perfect, the cannabis plant appears to be opening and closing and breathing" (August, personal communication, March 12, 2019).

**Relationships.** Interviewees repeatedly noted that due to the illicit history surrounding cannabis, relationships were and very probably still are an essential part of the industry. "When the illegal market was present, we had each other's back at times when it wasn't advantageous to call the police" (Quinn, personal communication, January 31, 2019). If one was fortunate to "know a grower that would trust you, you could learn firsthand. But that trust was super coveted



and very rare” (Jesse, personal communication, February 14, 2019). An introduction was necessary to speak with a grower, which was even the case for this study. One had to be vouched for or known to get in (Angel, personal communication, January 28, 2019). According to August, due to the illicit nature of the business, it has always been difficult for us to trust people. There are a lot of good-paying jobs that could be had, but everybody's just either turned away because it's been illegal, or it's been tough for us to trust people. That's why we've been hogtied into not being able to grow into a bigger business because the only person that could know where my thing was, was my brother and my generator mechanic, that was it. (personal communication, March 12, 2019)

For a number of the interviewees, it appears that their cannabis knowledge base came from legacy growers, the mom and pop operators, and artisans or craft growers. With certainty they find these legacy growers have championed this industry when it was unpopular, illegal, and at times, dangerous to do so. They tend to hold close to their chests the wisdom and skills required to grow quality cannabis. Angel stated, "Our procurement person has relationships with over 70 farms. We could not get traction if this person wasn't known within the cannabis community" (personal communication, February 28, 2019). A few interviewees stated that the value of these relationships is likely to diminish as the legal cannabis industry grows.

**Professionalism.** According to Jesse, the "Birkenstock, patchouli wearing, granola-eating, hippy-sharing, stoner days, are gone" (personal communication, February 14, 2018). A number of the interviewees have been in the industry for decades. They successfully transitioned from the illicit to the legal market and brought with them their vast expertise, as well as their creative and skillful business acumen.

Jody listed product knowledge, people skills, honesty, and character as professional qualities needed in this profession, with honesty as the most valued quality (Personal communication, January 29, 2019). Riley adamantly states that they do not use sex to sell their cannabis products, they find sexual marketing negatively impacts the industry from being seen professionally. We don't even sell skimpy shirts; we wear ones we think represent our company. We have a new demographic going into dispensaries. Maybe the 23-year-old stoner guy wants to see TNA, but I sell to 85-year-old women who are getting off their medication and finally sleeping for the first time in their life. They don't want to go in there and see cleavage everywhere (Personal communication, February 4, 2019).

**Compliance.** The business of cannabis has become fast moving, heavily regulated, and competitive. Compliance standards and industry taxation have made being successful challenging. Interviewees report that one needs to be able to adapt, be nimble, and pivot with the changing regulations. The interviewees acknowledged if one doesn't comply with the fluctuating regulations, one will be out of business. "Today, we go by the rules in an industry that prides itself in not going by the rules. An outlaw ethos isn't tolerated in today's climate" (Angel, personal communication, January 28, 2019). Today you have to be legal. "I'll always go back to compliance because if you screw up compliance, you lose your license" (Riley, personal communication, February 4, 2019). "Compliance is mandatory if the legal industry is your goal; there is no flexibility, no gray area" (Jesse, personal communication, February 14, 2019). "Government workers who don't care about the industry created the current compliance standards, and that is a problem" (Jesse, personal communication, February 14, 2019). "They broke up the distribution and the supply chain so they could track and trace every single part of

it" (Jody, personal communication, January 29, 2019). Riley goes on to say that

The laws today were written to ward off cartels, but it isn't the '70s or '80s. [Today] the average consumer is over 50 years old. Some of the compliance standards are over the top; regulations on our products are stricter than they are for baby food. Every time we drop a product, it takes two employees to dispose of it properly and sign all the paperwork. It is just crazy. (Riley, personal communication, February 4, 2019)

Numerous interviewees found that it is likely that the industry needs those with a critical mind that can quickly read through hundreds of pages of regulations and discern what new changes apply to their business. Capital is required to adjust to the changing regulations, and one either has the capital or they need investors. The cost of doing business is causing many companies to fail and has prevented many mom and pop operations the opportunity to transition from the illicit to the legal market.

**Cultivation.** "Cultivation is not so much a class one can teach, but instead, a process that needs to be experienced" (August, personal communication, March 12, 2019). Jody emphasized

That a real grower is fluid with the plant, doesn't use a formula; the whole experience is not cookie-cutter. A lot of the cultivation experience has come from trial and error, and lots of errors, more than anybody understands. You're failing the first three years of your life if you're in the cultivation business. I don't know how you can get that experience now without having experience, without going through the trenches. (Personal communication, January 31, 2019).

It seems that the interviewees found that nothing can replace the experience of being with the actual cannabis plant. "Without being present and making observations, you'd be surprised

how many things can just get past you simply because you weren't observing" (Sage, personal communication, February 15, 2019).

Interviewees indicated mass consolidation and automated grows have arrived, limiting the opportunity to actually experience the plant growing, or intimately observing the plant or being in the trenches with it. "These guys come in, read a book, watch a YouTube, and think they can grow, and it doesn't work that way. Corporate companies have built huge facilities; they grow horrible weed; throw it away" (Riley, personal communication, February 4, 2019).

Interviewees repeatedly noted that there are no shortcuts; growing takes time. One needs to be attentive, focused on, and responsive to the plant's needs. Jesse sees "cultivation skills are being lost to the lab coat. [Skills to] hand feed, walk the plants, go row by row, plant by plant" (Personal communication, February 14, 2019). People think cultivation is really sexy when it's 80 percent janitorial (Quinn, personal communication, January 31, 2019).

Sage described indoor and outdoor grows:

The indoor grow contains all the environmental control that allows the genetics to ideally express themselves, while the outdoor grow is where mother nature perfects with fewer interventions from man. An indoor grow lends itself to mass automation while the outdoor grow lends itself to the artisan; with the artisan always producing a superior cannabis product. (Personal communication, February 15, 2019)

Sage stated both methods ought to be represented equally in the marketplace, which is not the case.

Interviewees appear to indicate some of these legacy growers, artisans, crafters, and mom and pop operators possess generational wisdom and knowledge. "There's a fair amount of really

specialized, and in some ways, proprietary knowledge, that's been gathered over time” (Angel, personal communication, January 28, 2019).

Nowadays, with the Internet, you can learn in a matter of a couple of years that took me ten years of trial and error. But I would say probably the most important thing is passion; you have to love it. You can't skip steps, and you have to love it. More than anything else growing weed will humble you. (Jesse, personal interview, February 14, 2019)

According to Professor Zheng, "Growing marijuana has been illegal for so many years that there has been hardly any scientific research up until this point on how to produce this crop" (University of Guelph, 2017). The specific group excluded from the market due to challenges with compliance and taxation is the exact group that possesses the knowledge Professor Zheng is seeking. According to Riley, it is too late for the mom and pop operations since "big players will come in and buy everything up" because the industry is turning corporate. Riley noted a sign of this is the presence of mass consolidation, which is yielding inferior quality products (Personal communication, February 4, 2019).

**Advocacy.** Today "there is no pot without politics" (Riley, personal communication, February 4, 2019). Interviewees found it very probable that big money is redesigning the landscape in how cannabis is being grown, processed, and sold. Today, getting into the cannabis market is not a simple process. Many interviewees would likely advise small cannabis operators who are interested in entering the industry don't enter it unless you literally love the industry. According to Schroyer and McVeg (2019), “Legacy operators who fueled California's gray medical marijuana market for two decades have been shut out of the legal industry either by local license caps or by city and county ordinances that ban their business model.” This shut out has caused the market to contract for older legal and illegal operations while opening the market

to newcomers (Schroyer & McVey, 2019). Interviewees highlighted that newcomers lack decades of knowledge and the generational wisdom of their predecessors. According to Jesse, it is vital to participate:

Before laws are passed, [government entities] have an open forum asking for dialogue; [we] have to be a part of [this]. The direction we go with the plant [can] be taken out of our control. Once the pharmaceutical industry gets involved, if we don't stay active, we will not be able to grow weed, it'll go back to being Schedule I drug. (Personal communication, February 14, 2019)

Numerous interviewees found that today it is not enough to just run a business; one needs to be advocating for the industry as a whole. They emphasized advocacy is necessary to restructure the taxation of the industry, hopefully benefiting the industry and specifically, the legacy of mom and pop operators, artisans, or crafters. If the current regulations and taxes don't change, the mom and pop operations will never survive in today's market, ever, not even for a month (Riley, personal communication, February 4, 2019).

**Business acumen.** The interviewees found their business acumen in some ways was likely no different from any other business. Jesse elaborated on this point by stating,

You could be just a plant guy, know everything you need to know. However, behind that guy are lawyers, CPA's, tax attorneys, financial analysts, and someone running social media and marketing. Before you were one person wearing all those hats. [Today] you need help in those different areas (Personal communication, February 14, 2019).

Interviewees noted assistance is needed particularly with marketing, commerce, research and development, and being investable. Interviewees repeatedly affirmed the importance of knowing the market. "In a lot of dispensaries 50 percent of dispensary customers are over 50, not the

stoners; they are people who want to get off their medications and want to sleep" (Riley, personal communication, February 4, 2019). Interviewees highlighted that research and development can focus on product freshness and shelf life, while being investable includes good books, minimal debt, and decent profit.

Interviewees found business acumen that is more cannabis-specific includes customer service, computer skills; equipment, law, commerce, cultivation, and branding. Customer service focuses on knowledge and skills to assist recreational and medicinal customers; computer skills to track compliance standards; the operation and repair of cannabis-specific equipment; cannabis law; commerce including knowledge regarding packaging, equipment, interstate commerce, national brands, and logistics; and cultivation involving propagation, watering, nutrients, growth cycles, pests, disease, harvesting, drying, and curing. Regarding branding, the race is on, "Right now there is no recognized brand in the cannabis industry like Snickers" (Jody, personal communication, January 31, 2019).

## **Conclusion**

The interviewees' professional experiences, education and time within the industry varied. The licenses held among the eight interviewees include cultivation, manufacturing, distribution, and retail. Education ranged from some postsecondary to a master's degree. The time within the legal cannabis industry ranged from a few months to 12 years. One of the must-have qualities or competencies is being able to manage within this fast-moving industry that is highly regulated, expensive to enter, competitive, and increasingly automated.

The following is a synopsis of the seven identified themes of love and passion, relationships, professionalism, compliance, cultivation, advocacy and business acumen. For love and passion the focus is on growing cannabis as well as the medicinal benefits of cannabis.

Nurturing and maintaining relationships within the industry is the only way to gain access to coveted information and resources. Professionalism emphasizes knowledge, people skills, honesty, character, and appearance all which have an impact on the success of a cannabis business. Compliance mainly concentrates on industry standards and being able to adjust, being nimble and able to pivot with changing regulations. Cultivation centers on hands-on experience with the plant as the industry moves into the corporate arena. Advocacy highlights the view that one cannot just run a cannabis business, they must also advocate for the industry as a whole. While business acumen within the cannabis industry is the same as in many other businesses; assistance is needed in marketing, commerce, research and development as well as being investable.

The following ten skills were presented by numerous interviewees when describing what is needed for those entering the cannabis industry: advocacy, being nimble, business acumen, character, common sense, core values, knowledge, loyalty, passion, and people skills. Upon further investigation, a number of interviewees identified the following three components tied to their current success: a love and passion for the cannabis plant and all the medicinal benefits of the plant, positive relationships with a wide range of professionals within the industry, a professional demeanor and approach in running all aspects of their cannabis business, and customer service to their varied clientele.

To develop the ten skills listed above, higher education can develop curricula that includes the following subjects to prepare students for a career in the cannabis industry: biology; botany; cannabis history; cannabis science including cultivation, watering, propagation and nutrients; computer skills; logistics; chemistry to develop high quality products; branding; marketing; how to run a business; and packaging. One focus for the future of the cannabis



industry appears to be on artisans, automation, corporations, and competition.

The themes and skills gathered from the phenomenological interviews will be further explored in Chapter 5. These findings can potentially support the design and implementation of cannabis programs within higher education. That, in turn, can support the cannabis industry workforce needs.

## Chapter 5 – Discussion

The purpose of this qualitative phenomenological study is to examine the workforce needs of the cannabis industry. The findings may assist institutions that are providing or plan to deliver courses or programs in this expanding profession. Chapter 5 provides five recommendations based on the findings of the seven phenomenological themes and ten skills in Chapter 4. The themes are an amalgamation of the following six interview questions answered by eight cannabis industry experts, also referred to as interviewees or by one of the following gender-neutral pseudonyms: Angel, Jody, Lennon, Quinn, Riley, Jesse, Sage, and August.

1. What type of license do you operate, and what was your education and training for your current position?
2. How long have you worked in the cannabis industry, and how would you describe your experience in this field?
3. What is your experience of the absolute must-have qualities or competencies for people interested in working in the cannabis industry?
4. Which skill sets might one need in the future as the legal cannabis industry grows, and what are the hardest traits to find among applicants for positions in your business?
5. Based on your experience, in what ways could higher education evolve to better prepare candidates for work in this field, and do you see any problems or benefits with this?
6. Where do you see cannabis careers in five years?

The interviews, ensuing themes and skills provide the foundation to address the following two research questions: RQ 1 What are the cannabis industry's workforce needs that post-secondary education could build around to train professional cannabis representatives? RQ 2 What benefits and barriers do cannabis industry representatives see in developing a cannabis educational

workforce program? Chapter 5 includes seven themes presented in the summary of the findings. Other sections of this chapter include research limitations, recommendations for further study, and the conclusion.

### **Research Questions**

**RQ 1.** What are the cannabis industry’s workforce needs that post-secondary education could build around to train professional cannabis representatives? The workforce needs that higher education could focus on include training in the following areas: compliance, cultivation, advocacy, business acumen, and the medicinal benefits of cannabis.

**RQ 2.** What benefits and barriers do cannabis industry representatives see in developing a cannabis educational workforce program?

The interviewees collectively agreed that collaborating with higher education in the effort to train the cannabis industry workforce would be beneficial. One possible barrier could arise if higher education leaders decide to create classes and/or programs on their own without consulting industry experts. For a plan to be valued by this profession, industry experts need to collaborate with higher education to avoid any greenwashing [or hypocrisy] (Riley, personal communication, January 29, 2019). Ideally, a collaborative partnership between the cannabis industry and the college would lead to co-designing, co-creating, and co-maintaining cannabis courses and programs. The design of the program could include multiple crossovers between the industry and the school, as well as collegiate interdisciplinary crossovers within the college itself. “Although higher education is adapting courses to train for cannabis industry skills” (Meehan, 2019, title), private educational programs are beginning to meet some of the industry needs.

## **Implications for Practice**

According to Professor Zheng, "Growing marijuana has been illegal for so many years that there has been hardly any scientific research up until this point on how to produce this crop" (University of Guelph, 2017). The following seven phenomenological research themes are presented in this section as five recommendations for colleges that are interested in executing a cannabis program. The five recommendations are followed up with possible next steps.

**Recommendation 1 focus on love and passion.** Results of these interviews suggest that students would thrive in a cannabis training program when their inherent love and passion for the medicinal benefit of cannabis is validated, explored, and deepened. The artisans and crafters who have been in the industry for decades are there, in part, because of their love and passion, and care for the cannabis plant. This love and passion will inform and direct program creation. According to Sacirbey (2019), the way we think about craft is really about the way the plant is cared for, and the commitment to the artistry that the farmers in the [specified area] have had for a while ... Loving care and attention is what set craft apart from larger commercial grows.

**Recommendation 2 focus on relationships.** Results of the interviews suggest there would be value in a cannabis training program that focuses on building trusted relationships. Such relationships continue to be of value today as the legal cannabis industry grows exponentially, big time capitalism vies for their spot within the fluctuating market, and the title of top national cannabis brand remains unclaimed. Furthermore, trusted relationships are needed since, according to Sacirbey (2019), "In a time when giant multistate marijuana companies dominate in the U.S. cannabis landscape, legitimate concerns exist that they will drive craft and small cultivators out of the legal cannabis industry" (para. 1). Hopefully, trusted relationships will be a deterrent to Sacirbey's apprehension.

**Recommendation 3 focus on professionalism.** Interviewees strongly recommended that the future workforce be trained in such a way that workers are immediately able to make a strong contribution in a professional setting, immediately upon hire, which would require training in business standards for the industry. Marijuana Retail Report Staff (2019) describe this pursuit of professionalism as “natural selection and survival of the fittest (para 1),” they go on to offer “10 Quick Tips to Increase Professionalism (title),” which include the following: “be careful who you hire, require specialization, pay adequately, train well, set your standards early, embrace tracking technology, invest in professional development, set a corporate culture, have a zero-tolerance policy (focused on harassment, theft, and breaking compliance), and show appreciation (para. 5).”

Jesse’s statement that the “Birkenstock, patchouli wearing, granola-eating, hippy-sharing, stoner days are gone” amplifies the professionalism of the cannabis industry today (Personal communication, February 14, 2018). A number of the interviewees have been in the industry for decades, successfully transitioning from the illicit to the legal market. They brought with them their vast expertise and knowledge, as well as their creative, skillful, and professional business acumen. Business acumen includes customer service, computer skills, and knowledge regarding equipment, law, commerce, cultivation, and branding.

The first three recommendations offer the potential to create an academic cannabis program that has quality, depth, and dimension.

**Recommendation 4 focus on knowledge.** Build a foundation of legal, medicinal, and political knowledge. Knowing the legalities of the cannabis industry is mandatory for a successful business. Medicinal knowledge of cannabis is essential for those interfacing with the

public. Understanding the political aspects of the cannabis industry will benefit the profession as a whole.

**Recommendation 5 focus on courses.** Offer courses focused on compliance, cultivation, advocacy, and business acumen. A business doing everything correctly except compliance will be forced to shut down. Consequently, compliance focuses on local, state, and federal regulations as well as business law. Advocacy can emphasize the medicinal and political dimensions of cannabis, while cultivation centers on growing cannabis and the regulations involved in this endeavor.

Program coursework could focus on the themes of compliance, advocacy, and cultivation. Compliance could include business, business law, and public policy; culinary, food science, food handling, and ServSafe; machinery operation and repair; cannabis history; extraction and math skills related to extraction; and computer tracking skills. Promoting of soft skills and work ethic are at the core of success in the industry. Advocacy could offer courses in business and business law; leadership; cannabis history, sociology, political science, and communications; and the medicinal aspects of the endocannabinoid system, CBD, THC, and psychopharmacology. Cultivation could be comprised of courses in heating, ventilation, air conditioning, lighting and electrical, horticulture, permaculture, soil regeneration, non-cannabis plant growing skills. Additionally, the industry areas of compliance, advocacy, and cultivation could potentially offer internships.

Recommendations 4 and 5 offer guidance for which courses to offer.

### **Next Steps**

These are possible next steps for colleges to take when creating a cannabis program. Next steps feature suggested training of academics who are interested in the cannabis industry and of

cannabis industry experts who are as interested in academia.

**Step 1 consult cannabis industry experts.** Before undertaking anything, colleges need to consult with experts in the cannabis industry who have actually touched the plant directly versus ancillary sector experts who have not worked directly with the cannabis plant. The research interviewees for this study were cannabis experts who had hands-on experience with the actual cannabis plant as opposed to ancillary sector experts or no-touch plant experts who do not directly work with the plant.

Hiring cannabis professionals who have hands-on experience is critical when creating academic cannabis programs. Designing a program with an ancillary team composed of faculty, administrators, and perhaps a cannabis lawyer would be problematic. Furthermore, such a program would likely be labeled as green rush, or hypocritical (August, personnel communication, March 11, 2019). On the surface, the program created by ancillary professionals may appear correct, but the essence of love and passion for the cannabis plant and understanding the unique needs of customers maybe be missing. This essence is invaluable when creating, designing, and buding academic cannabis programs. Cannabis experts with hands on experience can be brought in as professors, adjunct, and/or consultants. If hands on cannabis experts are not close to an institution, an excellent option would be to consult remotely with them.

**Step 2 hold cannabis industry experts as lead.** Support cannabis experts with hands on experience to lead the college regarding the design and implementation of the program.

Academia needs to consult with industry experts at every level to affirm that the materials are relevant, current, and beneficial to the advancement of the cannabis industry as well as to higher education. An advisory panel could also be helpful in this endeavor. Cannabis industry experts

need to be guiding academia in the development of program materials. Program development could advance with a minimum number of cannabis experts directly teaching courses as faculty, adjunct, or professors. Address early on and in multiple ways any negative campus cannabis bias. Higher education needs advocates who see the cannabis industry as a legitimate profession being run by professionals and that a cannabis program would be beneficial for the college and the community at large. Although the institution as a whole may not see this benefit, those working to develop the program need to. In general, institutions desiring to create programs would be wise to turn to the cannabis industry experts to help support and guide their processes. This could be accomplished through campus informational lectures, workshops, brochures, and/or videos.

**Step 3 offer training.** Offer training to potential cannabis program faculty in the form of sabbaticals and workshops. Seeking out current college faculty who would be interested in teaching a cannabis curriculum is advisable. Administrators can support faculty attendance at cannabis workshops, as well as academic sabbaticals within the cannabis industry.

**Step 4 create mentoring opportunities.** Design the program to mentor one another. Ideally, cannabis experts would mentor college professors regarding the industry, and college professors would mentor cannabis experts regarding academia. Cannabis mentors could be hired to offer cutting-edge information. Academia would train cannabis mentors who plan to teach.

### **Research Credibility**

The specific strategies utilized to determine trustworthiness of the study's findings include crystallization, peer review, member checking and negative/extreme case analysis. Research data was collected through one on one interviews with cannabis industry experts who had professional careers in cultivation, manufacturing and/or retail industry.



**Crystallization.** Crystallization is a method of looking at the same data from multiple lenses with the researcher focused on the refracted view of the data (Stone, 2012). The crystallization process was applied to the current careers of the interviewees and to the results of the in-depth interviews.

Crystallization of the participants focused on their current professional position within the cannabis industry at the time of the interview. The eight interviewees have had a wide variety of experience working in the legal, as well as illegal cannabis industry. During the time of the actual interviews two of the interviewees were employed in the cultivation; two interviewees were employed in manufacturing; and four interviewees were employed in retail, specifically cannabis dispensaries. The interviewees responses to the interview questions reflected their current industry position.

The in-depth interviews focused on was the interviewees narrative of their lived experience of the workforce needs of the growing cannabis industry. Data from the in-depth interviews focused on the following seven research themes that began to emerge: love and passion, relationships, professionalism, compliance, cultivation, advocacy, and business acumen. Through crystalizing the different perspectives of cannabis industry experts with the interview data a deeper corroborated vision was revealed.

**Peer Review.** Johnson and Christensen (2017, p 299) define peer review as a “discussion of the researcher’s actions and interpretations during a study and conclusions at the end of the study with other people.” The researcher had numerous discussions over the phone or via email with several colleagues who held impartial views of the study. With a focus on developing credibility and confirming validity the peer reviewers examined the actual interview transcripts, methodology and the final report.

The main items of discussion included the richness of the actual interviews, the use of love and passion as one of the themes, and the best way to refer to cannabis industry experts who had hands on experience with the cannabis plant. A peer reviewer suggested for the researcher to create, from the original interview transcripts, abridged interviews and incorporate these interviews into the research findings so that the reader could contextualize these rich findings. Love and passion were ultimately accepted as valid findings. While cannabis expert, in the case of this research, refers to individuals who have had hands on experience with the cannabis plant.

**Member Checking.** Member checking occurred twice once after the individual interviews were complete and again after the findings were identified. According to Johnson and Christensen (2017, p 299) member checking is a “discussion of the researcher’s interpretations and conclusions with the study participants ... for verification, insight, and deeper understanding.”

After all the interviews were completed, they were transcribed by the researcher and then sent, reviewed, and approved by all eight interviewees. None of the interviewees added information to their transcribed interviews. The only item modified, in one of the transcripts, was the removal of a personal name, for the purposes of privacy. The second verification method occurred after the study was completed. Three of the eight interviewees answered the following question “Is there anything here that doesn’t align with your experiences, and/or are there any important nuances that aren’t reflected here?” Lennon stating “Looks great! I love the word nimble.” Angel stated, “I think the table aligns with what I had to say and presumably others.” Riley found the search to be “Very impressive! ... I only made one note to the table.” Riley’s one note to the table specified, “In my opinion, relationships and business acumen would be valuable for advocacy, especially at the political level.”

**Extreme or Negative Case Analysis.** This analysis was utilized to investigate the research finding of love and passion as the phenomenological essence of the study. Analyzing the coding one case at a time; then comparing that to the rest of the participants; yielded an explanation, in this case love and passion as the essence, unifies the whole data. Those who have been working in the legal or illegal cannabis industry the longest time period had more of a tendency to acknowledge having love and passion for the cannabis plant.

### **Research Limitations**

There were several limitations to this study. Some of the ConferZoom sessions were conducted on the telephone only, missing non-verbal communication cues. There may be possible bias regarding referrals from within the cannabis industry to identify study participants. The focus was to obtain expertise only in the areas of cultivation and retail. There is no guarantee that the eight cannabis industry experts included in the study represent the industry as a whole. The study was limited to perceptions of cannabis industry experts located in the western United States. As a result, the reflections of experts in other states might provide a different perspective yielding different results. Lastly, the study examined cannabis industry experts' thoughts at one point in time. The researcher can't predict how their perceptions could play out as the industry expands.

### **Recommendations for Further Research**

There is a broad and growing interest in the educational needs of the cannabis industry. As the cannabis industry grows, companies will need a trained workforce. Further research within specific areas of cultivation, marketing, manufacturing, distribution, and retail will help promote programs that support the development and success of this field of study. Additional research could investigate the competencies of those entering this profession, including their

strengths and areas of needed improvement; the findings could be utilized to fortify current programs and design future ones. More exploration could occur in the following areas: artisan versus automation; competition and corporations; and nurturing the essence of passion and love for the cannabis plant as the driving force within the cannabis industry.

Workforce development is a relatively new area of focus and requires a paradigm shift (Thorn, Duke, & Herring, 2017). According to Ladimeji (2013), multi-generation workforce management is on the cutting edge of human resource theory, addressing for the first time four generations working side by side: Veterans, Baby Boomers, Generation X, and Generation Y. Today, there is a need to “attract, motivate and engage a multigenerational workforce and to encourage collaboration between the generations” (Ladimeji, 2013, para. 10). The cannabis industry is attracting a multigenerational workforce with each generation offering a different perspective that can lead to misconceptions, stereotypes, and potential conflict in the workplace. Currently, it is uncertain how the multi-generational workforce will manifest within the cannabis industry (Green CulturEd, n.d.). According to Coons (2019), “A number of studies highlight the value of diversity [of multi-generations working together] in effective decision-making and innovation” (para. 4). Further research could provide insight into the impact of a multi-generational workforce on the industry. As well as the industry’s preference for hands on experience while the industry moves into the corporate area.

## **Conclusion**

From a distance, it might seem simple to dismiss the entire cannabis profession. However, that would reveal an ignorance fueled by the lingering propaganda days of Anslinger, the principal figure in the war against cannabis. Anslinger denied clinical evidence that cannabis did not lead to violent behavior and more addictive drugs (Reed, n.d.; Warf, 2014). Despite the

efforts to suppress the cannabis industry, the industry continues to blossom. Halaschak (2019) states that the revenue from the cannabis industry could grow beyond the NFL by 2020. According to Arcview Market Research, "Spending on legal cannabis worldwide is expected to hit 57 billion dollars by 2027" with 67 percent spent on recreational use and 33 percent on medical use (Pellechia, 2018, para. 1). This projected income reflects growth within this industry and the need for a professionally trained workforce. Although a number of the interviewees would prefer accredited public institutions to private, the private sector is currently providing the majority of the educational courses and programs.

While the state of cannabis at the federal level has given higher education pause, many schools are waiting for the federal government to legalize cannabis before moving forward. However, a growing number of higher education institutions are stepping forward, offering courses and/or programs, but they are the exception (Esch, 2019). Miami Dade College just joined the movement. It is working on classes and a certificate program, with a focus on "developing courses on the biology and chemistry of marijuana, as well as the plant's historical usage and evolving regulation. ... Students will be taught the academic side of marijuana ..." (Shammas, 2019, para. 1, 3). According to Jackson (2019), "A growing number of American universities are offering courses that help prepare their students for careers in the marijuana industry, so cannabis businesses should turn to them for potential interns" (para. 7).

For many years the cannabis industry has been operating in the shadows. The information some cannabis experts possess is not common knowledge due to the industry's illicit past. To design a quality program, cannabis experts need to be consulted every step of the way. Cannabis industry professionals with hands on experience can be brought in as experts, professors, adjuncts, or consultants when designing, building, and creating programs. Due to the

current federal Schedule I status of cannabis, an ancillary approach is advisable in most academic settings. However, this does not remove the value of teaching cultivation skills, which can be gained by growing and nurturing a tomato plant. Cannabis experts who are helping to design a program must have touch versus ancillary experience. Creating a program excluding cannabis industry experts with hands on experience cannabis experts would be an unfortunate mistake since hands-on cannabis growing experience informs every aspect of the industry.

A charge for many community colleges is to support their local community. Cannabis artisans and craft growers, as well as small cannabis manufactures and dispensaries, are businesses that will benefit from the support of their local college. In turn, this will strengthen the local economy and the local community, while potentially empowering small cannabis business owners to thrive and succeed in their business endeavors. Providing cannabis training to interested and qualified college employees, not just faculty, may positively impact the campus culture regarding an academic cannabis program on campus. For colleges interested in implementing a cannabis program it appears that it may be beneficial to integrate love, passion, relationships, and professionalism throughout their programs. These possibilities are enhanced if the training highlights the history of cannabis as well as the medicinal benefits of the plant. The medicinal benefits of cannabis offer a positive and pliable entry point for advocacy. A few poignant highlights of the history of cannabis over the past 2,000 years, as well as its medicinal benefits, may shed light on the numerous physiological benefits of cannabis. This information could be presented in a brochure or a video for wider distribution.

As cannabis continues to grow in popularity, there is an opportunity to glean wisdom from the past millennia. The accredited, not-for-profit higher education institutions have the chance to be nimble, to participate, as well as be instrumental in the expansion of this promising

industry. Higher education could take the following four steps to meet the needs of the cannabis industry: (a) perceive, embrace, and promote the cannabis industry as a professional industry; (b) consult and collaborate with and be directed by industry experts in creating academic courses and programs; (c) create courses or programs that remain nimble to the rapidly changing needs of the cannabis industry; and (d) design courses or programs that hold the essence of love and passion for the cannabis plant.

The populous as a whole has demonstrated ongoing interest in the development of the cannabis industry; consumers are interested in learning about and receiving the myriad benefits that the cannabis plant can offer. Academia has the opportunity to support cannabis career pathways by providing cannabis courses or programs, thus creating a qualified cannabis workforce. This educated cannabis workforce will safely know how to assist the populous in their growing interest in the cannabis plant and all of its enriching possibilities.

## References

- American Association of Community Colleges. (2018/2019, December/January). Betting on niche programs. *AACC Community College Journal*, 89(3), 14-15.
- ABC St. Louis. Associated Press. (2018, December 27). Legal marijuana industry had banner year in 2018. Retrieved from <https://abcstlouis.com/news/nation-world/legal-marijuana-industry-had-banner-year-in-2018-12-27-2018>.
- Advance Career Technical Education. (n.d.-a). *Career technical education*. Retrieved from <https://careertech.org/cte>
- Advance Career Technical Education. (n.d.-b). *Four essential components of a quality CTE program* [Web log post]. Retrieved from <http://blog.careertech.org/?p=13737>
- Alexander, J. (2017, May 16). Identify which programs to launch and how current programs can improve: Your guide to the program life cycle. *EAB*. Retrieved from <https://www.eab.com/research-and-insights/continuing-and-online-education-forum/expert-insights/2017/the-program-life-cycle>
- Angell, T. (2018a, April 9). Marijuana is the fastest-growing job category, top recruiting CEO says. *Forbes*. Retrieved from <https://www.forbes.com/sites/tomangell/2018/04/09/marijuana-is-the-fastest-growing-job-category-top-recruiting-ceo-says/#33e4c3e86687>
- Angell, T. (2018b, November 7). Marijuana won the midterm elections. *Forbes*. Retrieved from <https://www.forbes.com/sites/tomangell/2018/11/07/marijuana-won-the-midterm-elections/#2e50f47f3a91>
- Angell, T. (2018c, December 6). Marijuana's ten biggest victories of 2018. *Forbes*. Retrieved from <https://www.forbes.com/sites/tomangell/2018/12/06/marijuanas-ten-biggest-victories-of-2018/#24e1b1bc32df>
- BDS Analytics. (2018, January 2). New report: Legal marijuana industry to generate \$40 billion in economic impact by 2021. Retrieved from <https://bdsanalytics.com/press/new-report-legal-marijuana-industry-to-generate-40-billion/>
- Barnard, R. E. (2004). *A qualitative study of teachers' perceptions of staff development in three public northeast Tennessee elementary school districts*. School of Graduate Studies (Unpublished doctoral dissertation). East Tennessee State University. Johnson City, TN.
- Bays, J. (2016, September 26). *Top 3 questions to ask when assessing workforce development*. Retrieved from <https://info.siteselectiongroup.com/blog/top-questions-to-ask-when-assessing-workforce-development>
- Bein, S. (2018, September 24). *How colleges and cannabis companies are creating pot training programs*. Retrieved from <https://www.thegrowthop.com/cannabis/how-colleges-and->



cannabis-companies-are-creating-pot-training-programs/wcm/684c976d-06cf-43aa-a433-e510fd52d504

Berke, J., & Gould, S. (2019, June 25). *Illinois just became the first state to legalize marijuana sales through the legislature – here are all the states where marijuana is legal*. Retrieved from <https://www.businessinsider.com/legal-marijuana-states-2018-1>

Biographical Directory of the United States Congress. (n.d.). *Morrill, Justin Smith*. Retrieved from <http://bioguide.congress.gov/scripts/biodisplay.pl?index=m000969>

Boggs, G. R., & McPhail, C. J. (2016). *Practical leadership in community colleges: Navigating today's challenges*. Hoboken, NJ: John Wiley & Sons.

Borchardt, D. (2015, April 8). Pfizer, Eli Lilly were the original medical marijuana sellers. *Forbes*. Retrieved from <https://www.forbes.com/sites/debraborchardt/2015/04/08/pfizer-eli-lilly-were-the-original-medical-marijuana-sellers/#7fd0c5443026>

Borchardt, D. (2017, February 22). Marijuana industry projected to create more jobs than manufacturing by 2020. *Forbes*. Retrieved from <https://www.forbes.com/sites/debraborchardt/2017/02/22/marijuana-industry-projected-to-create-more-jobs-than-manufacturing-by-2020/#3146e9043fa9>

Burke, M. (2018, December 11). *Univ. of Connecticut to offer course on marijuana industry for a budding career path*. Retrieved from <https://www.nbcnews.com/news/us-news/univ-connecticut-offer-course-marijuana-industry-budding-career-path-n946721>

Burnett, M., & Reiman, A. (2014, October 8). *How did marijuana become illegal in the first place?* Retrieved from <http://www.drugpolicy.org/blog/how-did-marijuana-become-illegal-first-place>

Byrne, A. (2014, February 24). 1860. Patients out of time [Web log post]. Retrieved from <http://www.medicalcannabis.com/eighteen-sixty/>

Cadena, A. (2018, September 10). *Hemp vs marijuana: The difference explained*. Retrieved from <https://medium.com/cbd-origin/hemp-vs-marijuana-the-difference-explained-a837c51aa8f7>

CannaInsider. (n.d.-a). *The endocannabinoid system: How cannabis affects the human body*. Retrieved from <https://www.cannainsider.com/reviews/the-endocannabinoid-system/>

CannaInsider. (n.d.-b). *The top 10 cannabinoids how they help you*. Retrieved from <https://www.cannainsider.com/reviews/top-10-cannabinoids/>

Castellanos-Ryan, N., Pingault, J-B., Parent, S., Vitaro, F., Tremblay, R. E., & Seguin, J. R. (2017, October). Adolescent cannabis use, change in neurocognitive function, and high-school graduation: A longitudinal study from early adolescence to young adulthood. *Development and Psychopathology*, 29(4), 1253-1266. doi.org/10.1017/S0954579416001280

- Center for Creative Leadership. (2016). *Coaching others: Use active listening skills*. Retrieved from <https://www.ccl.org/articles/leading-effectively-articles/coaching-others-use-active-listening-skills/>
- Center for Innovation in Research and Teaching. (n.d.). *Phenomenology Methods & Data Collection*. Retrieved from [https://cirt.gcu.edu/research/developmentresources/research\\_ready/phenomenology/methods\\_data](https://cirt.gcu.edu/research/developmentresources/research_ready/phenomenology/methods_data)
- Centers for Disease Control and Prevention. (n.d.). Diseases and death. *Centers for Disease Control and Prevention*. Retrieved from <https://www.cdc.gov/>
- Cerbone, A. (2018, November 17). *Paul Smith's College works on growing new programs*. Retrieved from <http://www.adirondackdailyenterprise.com/news/local-news/2018/11/paul-smiths-college-works-on-growing-new-programs/>
- Chambers, R. (2013, August 8). *Leafly glossary of cannabis terms*. Retrieved from <https://www.leafly.com/news/cannabis-101/glossary-of-cannabis-terms>
- Clary, G. (2013, July 22). *Dr. David Bruce Allen returns for deposition in \$551M lawsuit, plans Saturday party at Blue Hole*. Retrieved from [http://blog.gulflive.com/mississippi-press-news/2013/07/dr\\_david\\_bruce\\_allen\\_returns\\_f.html](http://blog.gulflive.com/mississippi-press-news/2013/07/dr_david_bruce_allen_returns_f.html)
- Common Sense for Drug Policy. (n.d). *May 13, 1971, between 10:30 am and 12:30 pm -- Oval Office Conversation 498-5-- meeting with Nixon, Haldeman and Ehrlichman*. Retrieved from <http://www.csdp.org/research/nixonpot.txt>
- Consumer News and Business Channel. (2018). *Food & beverage | marijuana*. Retrieved from <https://www.cnn.com/marijuana/>
- Coons, D. (2019, April 15). *Embracing the multi-generational workforce*. Retrieved from <https://www.insurancejournal.com/magazines/mag-features/2019/04/15/523635.htm>
- Countable. (2017, August 2). *On this date: FDR made marijuana illegal 81 years ago*. Retrieved from <https://www.countable.us/articles/849-date-fdr-made-marijuana-illegal-81-years-ago>
- Creswell, J. W. (2015). *A concise introduction to mixed methods research*. Los Angeles, CA: Sage.
- Crossman, A. (2018, September 28). *Understanding purposive sampling: An overview of the method and its application*. Retrieved from <https://www.thoughtco.com/purposive-sampling-3026727>
- Deloitte. (n.d.). *Open: A society in transition, an industry ready to bloom 2018 cannabis report*. Retrieved from <https://www2.deloitte.com/content/dam/Deloitte/ca/Documents/consulting/ca-cannabis-2018-report-en.PDF>

- Devault, G. (2019, June 25). *Establishing trustworthiness in qualitative research: What are qualitative research processes?* Retrieved from <https://www.thebalancesmb.com/establishing-trustworthiness-in-qualitative-research-2297042>
- Dispensaries.com. (2017, June 29). What is Schedule I and why is marijuana on the list, anyway? *Green Entrepreneur*. Retrieved from <https://www.greenentrepreneur.com/article/296559>
- Downs, D. (2016, April 19). The science behind the DEA's long war on marijuana. *Scientific American*. Retrieved from <https://www.scientificamerican.com/article/the-science-behind-the-dea-s-long-war-on-marijuana/>
- Dunne, J. (2018, September 16). *Class is in session at Canada's first 'pot school': Niagara College offering instruction on growing weed*. Retrieved from <https://www.cbc.ca/news/business/marijuana-medical-weed-pot-cannabis-guelph-niagara-college-university-drug-1.4823509>
- Editors. (2018, May 1). End the war on weed: Federal marijuana laws are counterproductive and overly harsh. *Scientific American*. Retrieved from <https://www.scientificamerican.com/article/end-the-war-on-weed/>
- Esch, M. (2019, March 7). *Higher education: Colleges add cannabis to the curriculum*. Retrieved by <https://www.denverpost.com/2019/03/07/colleges-cannabis-curriculum/>
- Fain, P. (2017, July 5). Helping career education become a first choice. *Inside Higher Ed*. Retrieved from <https://www.insidehighered.com/news/2017/07/05/california-community-colleges-seek-rebrand-cte-state-kicks-new-money>
- Fine, P. G., & Rosenfeld, M. J. (2013, October 29). The endocannabinoid system, cannabinoids, and pain. *Rambam Maimonides Medical Journal*, 4(4), e0022. doi:10.5041/RMMJ.10129
- Flaccus, G. (2018, December 27). *Legal marijuana industry had banner year in 2018*. Retrieved from <https://www.apnews.com/0bd3cdbae26c4f99be359d6fe32f0d49>
- Flipp, C. (2017, July 14). *Phenomenology* [Video file]. Retrieved from <https://www.youtube.com/watch?v=7uNp7okdc-E>
- Forrest, B. (2018, September 19). *Cannabis 2.0: Surveying the industry's next wave*. Retrieved from <https://nationalpost.com/sponsored/news-sponsored/cannabis-2-0-surveying-the-industrys-next-wave>
- Fraze, G. (2018, December 6). *How colleges are preparing students for jobs that don't exist yet*. Retrieved from [https://www.pbs.org/newshour/economy/making-sense/how-colleges-are-preparing-students-for-jobs-that-dont-exist-yet?utm\\_source=facebook&utm\\_medium=pbsofficial&utm\\_campaign=newshour&linkId=100000004264611](https://www.pbs.org/newshour/economy/making-sense/how-colleges-are-preparing-students-for-jobs-that-dont-exist-yet?utm_source=facebook&utm_medium=pbsofficial&utm_campaign=newshour&linkId=100000004264611)
- Free Library. (2014). Controlling cannabis: What alcohol control boards should know about legal

- pot. *The Free Library*, 47(3). Retrieved from <https://www.thefreelibrary.com/Controlling+cannabis%3A+what+alcohol+control+boards+should+know+about+...-a0497795640>
- Frontline. (n.d.). *Marijuana timeline*. Retrieved from <https://www.pbs.org/wgbh/pages/frontline/shows/dope/etc/cron.html>
- Fuller, T. (2017, June 3). California's 'Green Rush' takes hmong back to their opium-growing roots. *The New York Times*. Retrieved from <https://www.nytimes.com/2017/06/03/us/hmong-marijuana-california.html>
- Ghehioeche, F., & Zemouli, K. R. (2016, March). *The cannabis social club: Policy for the XXIst century* [PDF file]. Retrieved from [http://www.unodc.org/documents/ungass2016/Contributions/Civil/Cannabis\\_Social\\_Club\\_International\\_Proposal\\_Group/CSC\\_UNGASS2016\\_ENG.pdf](http://www.unodc.org/documents/ungass2016/Contributions/Civil/Cannabis_Social_Club_International_Proposal_Group/CSC_UNGASS2016_ENG.pdf)
- Gill, P., Stewart, K., Treasure, E., & Chadwich, B. (2008, March 22). Methods of data collection in qualitative research: Interviews and focus groups. *British Dental Journal*, 204, 291-295. doi.org/10.1038/bdj.2008.192
- Gomez, L. R., & Gomez-Lizarraga, J. P. (2018, November 5). *November 2018 newsletter- California's hazy marijuana law: Are you still dazed and confused?* Retrieved from <https://bakerromero.com/2018/11/05/california-marijuana-lawupdate/>
- Goodman, J., Lovejoy, P. E., & Sherratt, A. (2007). *Consuming habits: Global and historical perspectives on how cultures define drugs*. New York, NY: Routledge.
- Grant, B. (2017, June 23). *Marijuana research still stymied by federal laws*. Retrieved from <https://www.the-scientist.com/news-opinion/marijuana-research-still-stymied-by-federal-laws-32161>
- Green, J. (2018, November 16). *Congressional leader will allow cannabis reform floor debates*. Retrieved from <https://www.green-flower.com/articles/974/cannabis-news-nov-16-2018>
- Green CulturED (n.d.). *Too old to work in cannabis?* Retrieved from <https://www.greencultured.co/too-old-to-work-in-cannabis/>
- Groenewald, T. (2004). A phenomenological research design illustrated. *International Journal of Qualitative Methods*, 3(1), 42-55. Retrieved from <https://journals.sagepub.com/doi/pdf/10.1177/160940690400300104>
- Gronbach, K. (2008). *The age curve: How to profit from the coming demographic storm*. New York, NY: Amacom American Management System.
- Gronbach, K. (n.d.). *The age curve: How to profit from the coming demographic storm* [PowerPoint presentation]. Retrieved from <https://www.wmc.org/wp-content/uploads/Ken-Gronbach-Presentation.pdf>

- Grotenhermen, F., & Muller-Vahl, K. (2012). The therapeutic potential of cannabis and cannabinoids. *Deutsches Arzteblatt International*, 109(29-30), 495-501. doi:10.3238/arztebl.2012.0495
- Gumbiner, J. (2011, May 10). History of cannabis in ancient China: Cannabis Sativa is an old plant with a long history [Web log post]. Retrieved from <https://www.psychologytoday.com/us/blog/the-teenage-mind/201105/history-cannabis-in-ancient-china>
- Halaschak, Z. (2019, June 11). *Revenue from pot could grow higher than that of the NFL by 2020: Report*. Retrieved from <https://www.washingtonexaminer.com/news/revenue-from-pot-could-grow-higher-than-that-of-the-nfl-by-2020-report>
- Hasse, J. (2019, July 17). U.S. Universities offering cannabis – focused graduate programs and master’s. *Forbes*. Retrieved from <https://www.forbes.com/sites/javierhasse/2019/07/17/cannabis-university/#2cdb424e13c1>
- Hawkins, M. (2013). *Scope of leadership series. Book 4 developing people*. Dallas, TX: Brown Books Publishing Group.
- Hirliman, G. (Producer), & Gasnier, L. J. (Director). (1936). *Reefer madness* [Motion picture]. United States: Motion Picture Ventures.
- Holmgren, (n.d.). *About permaculture*. Retrieved from <https://holmgren.com.au/about-permaculture/>
- Hultman, C. M., & Hills, G. E. (2011, October 18). Influence from entrepreneurship in marketing theory. *Journal of Research in Marketing and Entrepreneurship*, 13(2), 120–125. doi.org/10.1108/14715201111176408
- Hutchinson, B. (n.d.). *Inside the green rush*. Retrieved from <https://nationalpost.com/features/o-cannabis-inside-the-green-rush>
- IGI Global. (2017, September 14). *Workforce development theory and practice in the mental health sector* [Video file]. Retrieved from <https://www.youtube.com/watch?v=563qUueLAn4>
- Iwamoto, D. K., Creswell, J. W., & Caldwell, L. (2007, June 22). Feeling the beat: The meaning of rap music for ethnically diverse Midwestern college students - A phenomenological study. *Adolescence*, 42(166), 337-352.
- Jackson, M. (2019, August 17). Internships allow marijuana companies to ‘grow talent from within’. *Marijuana Business Daily*. Retrieved from <https://mjbizdaily.com/marijuana-companies-offering-internship-programs/>
- Johnson, B., & Christensen, L. (2017). *Educational research: Quantitative, qualitative, and mixed approaches* (6<sup>th</sup> ed). Thousand Oaks, CA: SAGE Publications.

- Jones, G. (2018, November 24). *No change in marijuana prosecution – for pot possession*. Retrieved from [http://www.emissourian.com/local\\_news/county/no-change-in-marijuana-prosecution-for-pot-possession/article\\_33a35034-ef57-11e8-89d6-4f3ba3f06cf1.html](http://www.emissourian.com/local_news/county/no-change-in-marijuana-prosecution-for-pot-possession/article_33a35034-ef57-11e8-89d6-4f3ba3f06cf1.html)
- Kalant, H. (2001). Medicinal use of cannabis: History and current use. *Pain Research and Management*, 6(2), 80-91.
- Kubala, J. (2018, February 26). *7 benefits and uses of CBD oil (plus side effects)*. Retrieved from <https://www.healthline.com/nutrition/cbd-oil-benefits#section1>
- Kuddus, M., Ginawi, I. A. M., & Al-Hazimi, A. (2013, March). Cannabis sativa: An ancient wild edible plant of India [PDF file]. *Emirates Journal of Food and Agriculture*, 25(10), 736-745. Retrieved from [https://www.researchgate.net/publication/260988477\\_Cannabis\\_sativa\\_An\\_ancient\\_wild\\_edible\\_plant\\_of\\_India](https://www.researchgate.net/publication/260988477_Cannabis_sativa_An_ancient_wild_edible_plant_of_India)
- Ladimeji, K. (2013, July 27). *5 workforce management theories*. Retrieved from <https://www.recruiter.com/i/5-workforce-management-theories/>
- Li, H. (1973, October). An archaeological and historical account of cannabis in China. *Economic Botany*, 28(4), 437-448. <https://doi.org/10.1007/BF02862859>
- Lima, C. (2014, March 3). *Simon Sinek – start with why – TED talk short edited* [Video file]. Retrieved from <https://www.youtube.com/watch?v=IPYeClXpxw>
- Madichie, N. O., & Gbadamosi, A. (2017). The entrepreneurial university: An exploration of “value-creation” in a non-management department. *Journal of Management Development*, 36(2), 196-216. <https://doi.org/10.1108/JMD-06-2016-0098>
- Manning, F. J. (2017, January 23). CTE program preps high school students in the professional world beyond K12. *District Administration*, (no p.). Retrieved October 23, 2018 from <https://www.districtadministration.com/article/career-paths-learners-embed-local-businesses>
- Manning, J. (2017). In vivo coding. In J. Matthes (Ed.), *The international encyclopedia of communication research methods* (pp. 1-2). New York, NY: Wiley-Blackwell.
- Marx, R. F. (2018, Fall). We’re not on oxycontin anymore, Toto: Can cannabinoids help alleviate America’s opioid crisis? *Utne*. Retrieved from <https://www.utne.com/mind-and-body/not-on-oxycontin-anymore-zm0z18fzols>
- Mason, M. (2010, September). Sample size and saturation in PhD studies using qualitative interviews. *Forum: Qualitative Social Research*, 11(3). Retrieved from <http://www.qualitative-research.net/index.php/fqs/article/view/1428/3027>
- Mathre, M. L. (Ed.). (1977). *Cannabis in medical practice: A legal, historical and pharmacological overview of therapeutic use of marijuana*. Jefferson, North Carolina: McFarland & Company, Inc.

- Meehan, M. (2019, February 20). *Higher education adapting courses to train for cannabis industry skills*. Retrieved from <https://news.weedmaps.com/2019/02/higher-education-adapting-courses-to-train-for-cannabis-industry-skills/>
- MMR Staff. (2019, February 22). *10 quick tips to increase professionalism of your budtenders & dispensary staff*. Retrieved from <https://marijuanaretailreport.com/10-quick-tips-increase-professionalism-budtenders-dispensary-staff/>
- Moody, J. (2018, August 28). Time for colleges to give cannabis a try? *Forbes*. Retrieved from <https://www.forbes.com/sites/joshmoody/2018/08/28/time-for-colleges-to-give-cannabis-a-try/#63ee086db11b>
- Moorehead, C. (2016, December 20). *7 steps for building a credible certification program*. Retrieved from <https://www.securityinfowatch.com/video-surveillance/article/12289208/7-steps-for-building-a-credible-certification-program>
- Moreno, V. (2002, December). *Validity issues in phenomenological research: Bridging theory and practice in a study of it-driven radical organizational change*. Retrieved from <https://pdfs.semanticscholar.org/f7ad/cc77f410d8e9d4cabd9ef30832b02bd9b4e8.pdf>
- Morse, J. M. (1994). Designing funded qualitative research. In: Denzin, N.K. and Lincoln, Y.S., Eds., *Handbook of Qualitative Inquiry*. Thousand Oaks, CA: Sage.
- Moustakas, C. (1994). *Phenomenological Research Methods*. Thousand Oaks, CA: Sage.
- Nahas, G. G. (1982, December). Hashish in Islam 9<sup>th</sup> to 18<sup>th</sup> Century. *Buffalo New York Academy of Medicine*, 58(9), 814-831. Retrieved from <http://europepmc.org/backend/ptpmcrender.fcgi?accid=PMC1805385&blobtype=pdf>
- National Academies of Sciences, Engineering, and Medicine. (2017). *The health effects of cannabis and cannabinoids: The current state of evidence and recommendations for research*. Washington, DC: The National Academies Press. Retrieved from [https://www.ncbi.nlm.nih.gov/books/NBK425762/#ref\\_000082](https://www.ncbi.nlm.nih.gov/books/NBK425762/#ref_000082)
- National Environmental Health Association (2018). Food safety guidance for cannabis infused products [PDF file]. Retrieved from <https://www.neha.org/sites/default/files/eh-topics/food-safety/Food-Safety-Guidance-Cannabis-Infused-Products.pdf>
- National Institutes of Health. (2018, October 25). Marijuana and cannabinoids. Retrieved from <https://nccih.nih.gov/health/marijuana>
- National Institute on Alcohol Abuse and Alcoholism. (2018, August). *Alcohol facts and statistics*. Retrieved from <https://www.niaaa.nih.gov/alcohol-health/overview-alcohol-consumption/alcohol-facts-and-statistics>
- National Institute on Drug Abuse. (2018, June 25). *Marijuana*. Retrieved from <https://www.drugabuse.gov/publications/research-reports/marijuana/marijuana-gateway-drug>

- Newsweek. (2018, December 8). Special Newsweek edition weed. *Newsweek*.
- Niagara College Canada. (2018, April 17). Canopy growth corporation and Niagara College partner to expand opportunities in Canada's cannabis industry [Web log post]. Retrieved from <https://www.niagaracollege.ca/blog/2018/04/17/canopy-growth-corporation-and-niagara-college-partner-to-expand-opportunities-in-canadas-cannabis-industry/>
- Niagara College Canada. (n.d.). School of Environment and Horticulture. *Commercial Cannabis Production*. Retrieved from <https://www.niagaracollege.ca/environment-horticulture-studies/programs/commercial-cannabis-production/>
- Niehoff, M. (2018, January 8). *Why schools need to change: Preparing for the future of work with Career technical education*. Retrieved from <https://www.nextgenlearning.org/articles/preparing-for-the-future-of-work-with-career-technical-education>
- Nobile, J. (2018, March 24). *Cannabis school startup has local roots*. Retrieved from <https://www.craigslist.com/article/20180323/news/155876/local-cannabis-school-startup-believes-its-filling-national-need>
- Oleinic, A. (2018, September 24). *California cannabis laws in 2018-2019: What you need to know*. Retrieved from <https://www.benzinga.com/markets/cannabis/18/09/12355039/california-cannabis-laws-in-2018-2019-what-you-need-to-know>
- Onwuegbuzie, A., Frels, R., & Hwang, E. (2016). Mapping Saldana's coding methods onto the literature review process. *Journal of Educational Issues*, 2(1), 130-150. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1127478.pdf>
- Pacella, R. (2018, January 27). *AACC professor pursuing credit-bearing cannabis program*. Retrieved from <http://www.capitalgazette.com/news/schools/ac-cn-cannabis-class-0127-story.html>
- Pagott, U., Marsicano, G., Cota, D., Lutz, B., & Pasquali, R. (2006, February 1). The emerging role of the endocannabinoid system in endocrine regulation and energy balance. *Endocrine Reviews*, 27(1), 73-100. Retrieved from <https://academic.oup.com/edrv/article/27/1/73/2355171>
- Pellechia, T. (2018, March 1). Legal cannabis industry poised for big growth, in North America and around the world. *Forbes*. Retrieved from <https://www.forbes.com/sites/thomaspellechia/2018/03/01/double-digit-billions-puts-north-america-in-the-worldwide-cannabis-market-lead/#475084836510>
- Polson, M. (2016, February). *Through the gateway: Marijuana production, governance, and the drug war détente* (Doctoral dissertation) *CUNY Academic Works*. Retrieved from [https://academicworks.cuny.edu/cgi/viewcontent.cgi?article=1734&context=gc\\_etds](https://academicworks.cuny.edu/cgi/viewcontent.cgi?article=1734&context=gc_etds)
- Reed, J. (n.d.). *The truth behind cannabis law: The hypocrisy of big pharma & the US*



- government. Retrieved from <https://isum.com/cannabis-truth/>
- Reiners, G. M. (2012, August 27). Understanding the differences between Husserl's (Descriptive) and Heidegger's (Interpretive) phenomenological research. *Journal of Nursing & Care*, 1(119), 1–3. doi:10.4172/2167-1168.1000119
- Roffman, R. (2016, January 18). Legalization of cannabis in Washington State: How is it going? *Addiction*, 111(7). doi.org/10.1111/add.13247
- Russo, E. B. (2007, August 21). History of cannabis and its preparations in saga, science, and sobriquet. *Chemistry & Biodiversity*, 4(8), 19. doi.org/10.1002/cbdv.200790144
- Sacirbey, O. (2019, August 8). Craft cannabis, capitalism & for-profit co-ops: Q&A with Flow Kana CEO Michael Steinmetz. *Marijuana Business Daily*. Retrieved from <https://mjbizdaily.com/craft-capitalism-for-profit-co-ops-qa-with-flow-kana-ceo-michael-steinmetz/>
- Saldana, J. (2016). *The coding manual for qualitative researchers* (3rd ed.). Los Angeles, CA: Sage.
- Sava. (2016, June 22). The spread of cannabis throughout the world. *Cannabis Lifestyle, Cannabis News*. Retrieved from [getsava.com](http://getsava.com) on October 10, 2018.
- SC Compassionate Care Alliance. (2017, October 27). *Uma V Dhanabalan MD MPH FAAFP speaks at the South Carolina Statehouse* [Video file]. Retrieved from <https://www.youtube.com/watch?v=7NlboIbCeLo>
- Schaffer Library of Drug Policy. (n.d.). *Statement of H. J. Anslinger, Commissioner of Narcotics, Bureau of Narcotics, Department of the Treasury*. Retrieved from <http://www.druglibrary.org/schaffer/hemp/taxact/anslng1.htm>
- Schoolcraft, T., & Sax, C. M. (2016, November 18). *Overcoming barriers to new program development*. Retrieved from [https://evollution.com/programming/program\\_planning/overcoming-barriers-to-new-program-development/](https://evollution.com/programming/program_planning/overcoming-barriers-to-new-program-development/)
- Schroyer, J., & McVey E. (2019, February 18). *Chart: Most California municipalities ban commercial cannabis activity*. Retrieved from <https://mjbizdaily.com/chart-most-of-california-municipalities-ban-commercial-cannabis-activity/>
- Sexton, M., Cuttler, C., Finnell, J. S., & Mischley, L. K. (2016, Dec). A cross-sectional survey of medical cannabis users: Patterns of use and perceived efficacy. *Cannabis and Cannabinoid Research*, 1(1), 131–138. <https://doi.org/10.1089/can.2016.0007>
- Shammas, B. (2019, August 7). Miami Dade College will offer medical marijuana classes. *Miami New Times*. Retrieved from <https://www.miaminewtimes.com/marijuana/miami-dade-college-developing-medical-marijuana-classes-and-certification-11235850>

- Simpson, P. (2015, August 19). *Cannabis and decriminalization, why the science alone isn't working*. Retrieved from <https://www.newsthe.com/cannabis-decriminalisation-science-alone-isnt-working/>
- Southwick, R. (2016, October 13). The dark side: How some users could be risking serious illness [Web log post]. Retrieved from <http://thefutureofcannabisintheworld.blogspot.com/2016/10/the-dark-side-how-some-users-could-be.html>
- State of California Department of Industrial Relations. (2018, September 13). Apprenticeship standards of the statewide cannabis industry employers joint apprenticeship committee [PDF file]. Retrieved from <https://www.dir.ca.gov/das/standards/StatewideCannabisApprenticeshipProgram.pdf>
- Stephanie. (2014, December 9). Snowball sampling: Definition, advantages and disadvantages. *Statistics How To*. Retrieved from <https://www.statisticshowto.datasciencecentral.com/snowball-sampling/>
- Stone, Jason. (2012, October 9). *Jason Stone teaches about crystallization as a qualitative research method* [Video file]. Retrieved from <https://www.youtube.com/watch?v=gp5nlGgiMkc>
- Studio 88 Create. (2015, April 15). *Simple math Ken Gronbach* [Video file]. Retrieved from [https://www.youtube.com/watch?time\\_continue=151&v=qZyk7v3cJdo](https://www.youtube.com/watch?time_continue=151&v=qZyk7v3cJdo)
- Subramanian, K. (2017, October 17). *How cannabis helped understand mental illness*. Retrieved from <https://www.thehindu.com/thread/science-health-environment/how-cannabis-helped-us-learn-more-about-mental-illness/article19861224.ece>
- Swindell, B. (2018, January 21). *CannaCraft CEO William Silver seeks to make Sonoma County the business mecca for cannabis*. Retrieved from <https://www.pressdemocrat.com/business/7884492-181/cannacraft-ceo-william-silver-seeks>
- Taylor, T. (2017, September 26). *Up in smoke: Marijuana workers need further training as more states legalize*. Retrieved from <https://www.hrdive.com/news/up-in-smoke-marijuana-workers-need-further-training-as-more-states-legaliz/505757/>
- Thiessen, M. S., Matthews, L., & Walsh, Z. (2017, June). First, do no harm: The role of cannabis education in response to the opioid crisis. *The University of British Columbia Medical Journal*, 9(1), 23-24. Retrieved from [https://www.researchgate.net/publication/317620304\\_First\\_Do\\_No\\_Harm\\_The\\_Role\\_of\\_Cannabis\\_Education\\_in\\_Response\\_to\\_the\\_Opioid\\_Crisis](https://www.researchgate.net/publication/317620304_First_Do_No_Harm_The_Role_of_Cannabis_Education_in_Response_to_the_Opioid_Crisis)
- Thomas Jefferson University. (2018, July 5). Thomas Jefferson University launches the nation's only university-based cannabis science graduate certificate programs to prepare healthcare and industry professionals for the fast-growing field. *PR Newswire*. Retrieved from <https://www.prnewswire.com/news-releases/thomas-jefferson-university-launches->

the-nations-only-university-based-cannabis-science-graduate-certificate-programs-to-prepare-healthcare-and-industry-professionals-for-the-fast-growing-field-300676166.html

- Thorn, B., Duke, D., & Herring, R. (2017, October 18). Workforce development: Is there a paradigm shift [Editorial]. *Drugs: Education, Prevention and Policy*, 6(24), 437-429. <https://doi.org/10.1080/09687637.2017.1385725>
- Ton-Quinlivan, V. (2018, November 8). *Six ways colleges can think differently to meet the workforce needs in America*. Retrieved from [https://evollution.com/revenue-streams/workforce\\_development/six-ways-colleges-can-think-differently-to-meet-the-workforce-needs-in-america/](https://evollution.com/revenue-streams/workforce_development/six-ways-colleges-can-think-differently-to-meet-the-workforce-needs-in-america/)
- Tracy, R. (2018, May 11). *How community colleges support the local workforce*. Retrieved from [https://evollution.com/revenue-streams/workforce\\_development/how-community-colleges-support-the-local-workforce/](https://evollution.com/revenue-streams/workforce_development/how-community-colleges-support-the-local-workforce/)
- United States. Congress. Senate. Committee on the Judiciary. (1975, May 14). *Marijuana decriminalization: Hearing before the subcommittee to investigate juvenile delinquency of the committee on the judiciary United States Senate Ninety-Fourth Congress*. Retrieved from <https://books.google.com/books?id=-moTAAAIAAJ&printsec=frontcover#v=onepage&q&f=false>
- United States Securities and Exchange Commission. (2018). *Schedule 14A. Eli Lilly and Company*. Retrieved from [https://www.sec.gov/Archives/edgar/data/59478/000005947818000111/proxy2018\\_def14a.htm#s965174A68A290E30D012C503E549994D](https://www.sec.gov/Archives/edgar/data/59478/000005947818000111/proxy2018_def14a.htm#s965174A68A290E30D012C503E549994D)
- University of Guelph. (2017, October 17). North American first: Researchers publish scientific study on cannabis production. *Phys.org*. Retrieved from <https://phys.org/news/2017-10-north-american-publish-scientific-cannabis.html>
- Van Ours, J. C. (2012, April 4). The long and winding road to cannabis legalization. *Addiction* 107(5), 872–877. doi.org/10.1111/j.1360-0443.2011.03625.x
- Warf, B. (2014, September 25). High points: An historical geography of cannabis, *Geographical Review*, 104(4), 414-438. doi.org/10.1111/j.1931-0846.2014.12038.x
- Washington State Institute for Public Policy. (2017, September). *I-502 evaluation and benefit-cost analysis: Second required report*. (Document Number 17-09-3201) [PDF file]. Retrieved from [https://www.wsipp.wa.gov/ReportFile/1670/Wsipp\\_I-502-Evaluation-and-Benefit-Cost-Analysis-Second-Required-Report\\_Report.pdf](https://www.wsipp.wa.gov/ReportFile/1670/Wsipp_I-502-Evaluation-and-Benefit-Cost-Analysis-Second-Required-Report_Report.pdf)
- Weed, J. (2017, September 2). *American Universities offering cannabis classes this fall*. Retrieved from <https://www.forbes.com/sites/julieweed/2017/09/02/physicians-and-budtenders-taking-cannabis-classes-this-fall/#837b49744296>
- Wiese, B., & Wilson-Poe, A. R. (2018, September 1). Emerging evidence for cannabis' role in

opioid use disorder. *Cannabis and Cannabinoid Research* 3(1), 179–189.  
doi:10.1089/can.2018.0022

Yukel, P., & Yildirim, S. (2015, January). Theoretical frameworks, methods, and procedures for conducting phenomenological studies in educational settings. *Turkish Online Journal of Qualitative Inquiry*, 6(1), 1–20. Retrieved from <http://dergipark.gov.tr/download/article-file/199867>

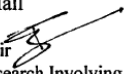
Zapata, G. (2013). *Program innovation in higher education: An exploratory study of the creation of new degree programs in Chilean universities* (Doctoral dissertation). University at Albany, State University of New York. Retrieved from [https://www.researchgate.net/publication/277583846\\_Program\\_innovation\\_in\\_higher\\_education\\_An\\_exploratory\\_study\\_of\\_the\\_creation\\_of\\_new\\_degree\\_programs\\_in\\_Chilean\\_universities](https://www.researchgate.net/publication/277583846_Program_innovation_in_higher_education_An_exploratory_study_of_the_creation_of_new_degree_programs_in_Chilean_universities)

Zuardi, A, W. (2006). History of cannabis as medicine: a review. *Brazilian Journal of Psychiatry*, 28(2), 153-157. doi.org/10.1590/S1516-44462006000200015

# Appendix A – Institutional Review Board Approval

**KANSAS STATE**  
UNIVERSITY | University Research Compliance Office

TO: Dr. Margaretta Mathis  
Adult Learning and Leadership  
363 Bluemont Hall

FROM: Rick Scheidt, Chair   
Committee on Research Involving Human Subjects

DATE: 07/23/2019

RE: Approval of Proposal Entitled, “The Needs Of A Qualified Cannabis Workforce: How Higher Education Can Support Cannabis Career Pathways.”

Proposal Number: 9811

The Committee on Research Involving Human Subjects has reviewed your proposal and has granted full approval. This proposal is **approved for three years from the date of this correspondence.**

APPROVAL DATE: 07/23/2019

EXPIRATION DATE: 07/23/2022

In giving its approval, the Committee has determined that:

- There is no more than minimal risk to the subjects.  
 There is greater than minimal risk to the subjects.

This approval applies only to the proposal currently on file as written. Any change or modification affecting human subjects must be approved by the IRB prior to implementation. All approved proposals are subject to continuing review, which may include the examination of records connected with the project. Announced post-approval monitoring may be performed during the course of this approval period by URCO staff. Injuries, unanticipated problems or adverse events involving risk to subjects or to others must be reported immediately to the Chair of the IRB and / or the URCO.

## Appendix B – Research Study Overview

### Workforce Development Needs within the Cannabis Industry

Request support for doctoral research to assist in identifying the perceived workforce development training needs.

**WHAT:** Dissertation research by Becky Black for a Doctorate in Community College Leadership.

**PURPOSE:** The purpose of this study is to examine cannabis industry representatives' perspective of workforce development training needs; the projected income from the cannabis industry reflects the growth within this sector and the need for a professionally trained workforce.

**Requested Support:** Cannabis industry representatives' participation in a web-based survey regarding the industry's workforce development training needs. The survey will be composed of three sections and will take 4-8 minutes to complete. The first section includes the participant's informed consent, the option to opt-out, and a short rationale for the survey. The second section consists of piloted and refined survey questions. The third section includes demographic questions for categorizing that will establish survey validity/reliability and ensure that no one demographic biases the data.

**Background:** The projected income from the cannabis industry reflects the growth within this sector and the need for a professionally trained workforce. As more states move to legalize the growing and manufacturing, there is a shortage of trained, skilled, and knowledgeable workers.

**Organizational Benefits:** The study will provide cannabis industry representatives with a clearer understanding of the industry's workforce development-training needs. By discovering what the industry needs, representatives may organize and unify in seeking a specific level of education for optimal operation of the cannabis industry. This study may inform educators what to focus on when creating a program for the industry. The increased awareness regarding the workforce needs could strengthen the profession currently as well as in the future; this may result in improved employee retention and reduced overall costs. Lastly, creating an industry program, increasing awareness regarding workforce needs, improving employee retention, and reducing total operational costs will increase the industry's effectiveness and success.

**For additional information contact:** BeckyBlack at (email address provided).

## Appendix C – Letter to Interviewees

Date \_\_\_\_\_

Dear \_\_\_\_\_,

Thank you for your interest in my dissertation research on the cannabis industry representative’s experience regarding workforce needs. I value the unique contribution that you can make to this study and look forward to your possible participation in it. The purpose of this letter is to reiterate a few things we have already discussed and to obtain your signature on the participant-release form that you will find attached.

The research model is a qualitative one in which comprehensive descriptions of your experience will be sought out. The goal is to clarify and or answer my research questions: 1) “What are the cannabis industry's workforce needs that post-secondary education could build around to train professional cannabis representatives?” 2) “What benefits and barriers do cannabis industry representatives see in developing a cannabis educational workforce program?”

As a co-researcher, I hope to understand the essence of the workforce needs for the cannabis industry as it reveals itself in your experience. You will be asked to recall situations or events that you experienced while working in the cannabis industry. I am seeking vivid, accurate, and comprehensive portrayals of what these experiences were like for you: your thoughts, feelings, and behaviors, as well as situations, events, places and people connected with your experience.

I appreciate and value your participation and thank you for the commitment of time, energy, and effort. If you have any further questions before signing the release form or if there is a problem with the date and time of our interview.

Sincerely,

*Becky Black*

## Appendix D – Interviewee Release Agreement

I agree to participate as a co-researcher in a research study of “What are the cannabis industry's workforce needs that post-secondary education could build around to train professional cannabis representatives?” I understand the purpose and nature of this study, and I am participating voluntarily and will not be identified by name in the study, but a reference to my professional cannabis position may be made. I grant permission for the data to be used in the process of completing an Ed.D. degree, including a dissertation and any other future publication. I agree to meet at the following location \_\_\_\_\_ on the following date \_\_\_\_\_ at \_\_\_\_\_ for an initial interview of 1 to 2 hours. If necessary, I will be available at a mutually agreed upon time and place for an additional 1 to 1½ hour interview. I also grant permission to tape-recording of the interview(s).

---

Co-Researcher / Date

---

Researcher / Date



## Appendix E – Interviewee Thank You Letter

Date \_\_\_\_\_

Dear \_\_\_\_\_

Thank you for meeting with me for the in-depth interview and sharing your experience in regards to the cannabis industry. I appreciate your willingness to share your unique and personal thoughts, feelings, events, and situations.

I have enclosed a transcript of your interview. Would you please review the entire document? Please ask yourself if this interview has fully captured your experience of the cannabis industry workforce needs. After reviewing the transcript of the interview, you may realize that a valuable experience(s) was not included. Please feel free to add comments, with the enclosed red pen, that would further elaborate your experience(s), or if you prefer we can arrange to meet again and tape-record your additions or corrections. Please do not edit for grammatical corrections. The way you told your story is what is critical.

When you have reviewed the verbatim transcript and have had an opportunity to make changes and additions, please return the transcript in the stamped, addressed envelope.

I have greatly valued your participation in this research study and your willingness to share your experiences. If you have any questions or concerns, do not hesitate to call me at xxx-xxx-xxxx.

Sincerely,

*Becky Black*