

AIRLINE SAFETY AND FEDERAL AVIATION ADMINISTRATION EXTENSION  
ACT OF 2010: HOW POLICY THEORY AND IMPLEMENTATION APPLIES TO  
PROFESSIONAL PILOT FLIGHT PROGRAMS IN HIGHER EDUCATION

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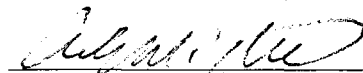
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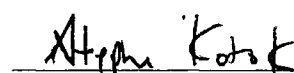
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## ABSTRACT

### AIRLINE SAFETY AND FEDERAL AVIATION ADMINISTRATION EXTENSION ACT OF 2010: HOW POLICY THEORY APPLIES TO PROFESSIONAL PILOT FLIGHT PROGRAMS IN HIGHER EDUCATION

Andrew Michael

This study used public policy implementation framework to examine issues of policy implementation at higher educational institutions and the educational change that is required as well as the capacity to carry out the policy and the stakeholders crafting the policy. The theoretical framework is based upon Fullan's Factors affecting the policy implementation approach and how he links implementation, to the issue of educational change (2015). Through the use of data from the Aviation Accreditation Board International (AABI), this study used descriptive and inferential statistics along with qualitative research to analyze the survey. The survey was sent to accredited and non-accredited members of the Aviation Accreditation Board International and examined three research questions: 1) To what extent has the implementation of Public Law 111-216 impacted your institutions professional flight program as it relates to course curriculum, possible changes in the program, and additional training for teachers?; 2) To what extent has Public Law 111-216 led to unintended consequences, such as an increase or decrease in enrollment, prolonged graduation rates, and student retention rate?; The study suggests that Public Law 111-216 is not achieving what it was intended too, prevent fatal airline aviation accidents. It does, however, provide for graduating professional pilots to serve as Certified Flight Instructors until they accumulate the required 1000 hours for a Restricted Airline Transport Pilot Certificate needed to gain

employment at a Regional Airline. The study suggests that a Public Law 111-216 creates a negative impact on pilot students who completed a four-year professional degree program from an AABI accredited higher education institution through the increase in total hours flown and not the quality of hours operated. It also suggests that higher education institutions are incurring additional costs to implement the law. The study indicates that the only person benefiting from Public Law 111-216 is a higher education institution and the number of Certified Flight Instructor's they produce.

The study suggests that Federalism with a delegated approach from the Executive Branch of Government is not always the best way to train a student to become a professional pilot.

## DEDICATION

This dissertation is dedicated to:

My wife, Bernadette, for your loving encouragement as we traveled down this journey together. Thank you for putting up with me when things seemed like they were falling out of control. Thank you for your love and support. I Love You.

My daughter, Margaret, thank you for reminding me that there is always time to play, even when I am studying for a test or writing a dissertation. I cherish every moment I get to spend with you and thank God for the day he made you apart of our family. I Love You, Maggie.

My Mother who never stopped loving me and continued to encourage me to reach for the stars and follow my dreams. Mom, I am so glad that you are here to witness this journey with me. I Love you endlessly.

To my Mother-In-Law, Teressa, thank you for giving my family a home when we moved to New York and for being there when we needed you. I Love You.

To my brother Fred who is always willing to take my call when I need a friend to talk too. Thank you for the countless times you picked up the phone and reminded me of the good life we have shared and the years to come. I Love You.

To My brother Bill, thank you for showing me the path to return to live with my Heavenly Father someday. Thank you for the good times we shared as kids and then as adults. I Love You.

To my father, even though you are gone now, and I miss you dearly, I hope I have grown into the man that you envisioned. I think of you always and rejoice in knowing that someday we will meet again. I Love You, Dad.

To My Fellow United States Marines, thank you for teaching me to adapt, improvise, and overcome. Semper Fi Brothers.

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## TABLE OF CONTENTS

CHAPTER 1: Introduction .....	1
Purpose of The Study .....	7
Theoretical Framework .....	8
The significance of the Study .....	9
Research Questions.....	11
Definition of Terms .....	11
CHAPTER 2: Review of Related Research .....	17
Theoretical Framework .....	17
Related Research.....	21
Federal Policy .....	21
State Policy .....	25
Governing Bodies .....	26
Policy Implementation .....	27
Policy Implementation Theory.....	27
Policymaking Theory .....	30
Multi-Streams Approach .....	30
Advocacy Coalition Framework .....	31
Relationships Between Prior Research and Present Study.....	31
CHAPTER 3: Method .....	34
Hypotheses/Specific Research Questions.....	34

Research Design and Data Analysis.....	36
Sample.....	37
Instruments.....	38
Validity.....	39
Reliability.....	40
Procedures.....	42
CHAPTER 4: Results.....	44
Demographic Data.....	44
Research Questions.....	48
Research Question 1.....	48
Research Question 2.....	52
Hypothesis Results.....	56
CHAPTER 5: Discussion.....	59
Interpretation of Results.....	59
Relationship to Prior Research.....	66
Limitations of the Study.....	70
Implications for Future Research.....	71
Implications for Future Practice.....	72
REFERENCES.....	73
APPENDIX A IRB Approval Memo.....	89
APPENDIX B Survey.....	90
APPENDIX C Introduction Letter.....	99

## LIST OF TABLES

Table 1: <i>Reliability Statistics</i> .....	40
Table 2: <i>Recoded Missing Data</i> .....	45
Table 3: <i>Please identify your position at your institution</i> .....	46
Table 4: <i>What is your institution's flight training fleet size?</i> .....	47
Table 5: <i>How many students are currently in your flight department?</i> .....	48
Table 6: <i>Descriptive Statistics Research Question 1</i> .....	51
Table 7: <i>Correlations for Research Question 1</i> .....	52
Table 8: <i>Correlations for Research Question 2</i> .....	54
Table 9: <i>Descriptive Statistics for Hypothesis Testing</i> .....	55
Table 10: <i>Correlations for Hypothesis Testing</i> .....	55
Table 11: <i>Themes</i> .....	57

## TABLE OF FIGURES

Figure 1: <i>Factors Affecting Implementation Framework</i> .....	20
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## CHAPTER 1

### Introduction

In the past six years, aviation legislation has drastically changed the way professional pilots are trained in higher education flight programs. The misconception that professional aviation pilots, with less than 1500 hours total flight time, are the catalyst in aviation-related fatalities and crashes, is without merit. Such legislation is aimed at schools and the course curriculum they offer leading to a Bachelor of Science with a professional pilot major. These schools' graduate pilots with approximately 300 hours of total flight time. Most pilots graduate as a Certified Flight Instructor (CFI) and go on to teach flight training to student pilots. However, accident fatality rates are at an all-time low (Boeing, 2014), while airlines are consistently operating with the highest passenger load factor (Airlines for America, 2015b). If we were to take a page in history from the Wright brothers in 1903, we would learn that they carried five sets of parts with them whenever they went out to fly. They did this because based upon their experience they would crash an average of five times each time they flew. Needless to say, while the Wright brothers gave birth to civil aviation and their methods of achieving crewed flight were somewhat crude, they were pilots, and all pilots understand that there is always an associated risk of death while flying. However, with today's technology and superior flying skills of modern-day pilots, as opposed to the technology and capabilities of the Wright brothers, in 1903, it is not acceptable to crash during an expected flight. Nowhere is this study intended to minimize the pain-and-suffering experienced by those injured in aviation-related accidents as well as their survivors who live with emotional and deep-seated scars from these tragedies, but to learn from these accidents. Moreover, this study will evaluate the impact that implementation of Public Law 111 – 216 (PL111 – 216) has had on collegiate flight schools since the crash of collagen flight 3407.

It is accidents like Colgan flight 3407 that the airline industry can come together in determining the cause of the crash and hopefully put into place new rules and regulations aimed at preventing the same disaster from occurring again.

Colgan flight 3407 which crashed on February 12, 2009, about 10:00 pm Eastern Standard Time, Colgan Air Inc. operated a Bombardier, 8-Q400 turboprop airplane with 86 passengers and flew as a codeshare under an agreement with Continental Airlines. This crash casts a significant spotlight on the commercial aviation industry and the safety regulations they follow. An unusual amount of media attention drew public scrutiny when the National Transportation Safety Board (NTSB) released a report alleging pilot error, to be the cause of the accident. The NTSB alluded that the flight crew were experienced in this aircraft, but had been suffering from some fatigue, due to repositioning from the West Coast of the United States, to the East Coast where they initiated the flight from Liberty International Airport, Newark, New Jersey to Buffalo, New York. From the scrutiny of this NTSB report came a significant overhaul of the airline safety and pilot qualifications that affect the US collegiate flight students and the US airline industry stemming from inadequate training in the cockpit as well as a lack of government regulation.

In the aftermath what became known as the "Colgan Air Flight 3407 Air Disaster," public sentiment and outcry developed — mostly fueled by the victims' family members who enlisted the help of the national media resources to put a spotlight on the issues related to the accident which included airline code sharing transparency, pilot qualifications, and more training for pilots (Everett, 2012). The national press led to a

grassroots effort to petition Congress to introduce legislation that would prevent another catastrophic aviation accident like Colgan Air Flight 3407. Of course, any changes to the law could substantially alter how pilots were trained and certified and subsequently would bring about changes to the colleges that pilots received such education.

Frameworks from scholars such as Kingdon (2009) and Fullan (2015) can help us better understand the policy implementation of a law such as Public Law 111-216. Kingdon (2009) reminds us that for policy formation to come about there must exist three streams: the problem stream, the policy stream, and the politics stream. When these three streams come together, a policy window opens, and it is this policy window that leads to policy change.

The United States federal government felt compelled to act and in the Second Session of the 111<sup>th</sup> Congress and introduced *House Resolution H. R. 5900* on July 28, 2010, despite testimony from Randy Babbitt, Former Administrator of the FAA, during a House Transportation and Infrastructure Committee Hearing on Aviation Safety and Airline Pilot Training commented:

I know some people are suggesting that merely increasing the minimum number of hours required for a pilot to fly in commercial aviation is appropriate. As I have stated repeatedly, I do not believe that merely raising quantity without regard to the quality and nature of that time and experience is an appropriate method by which to improve the pilot's proficiency in commercial operations ("Airline Safety and Pilot Training, Part 2 Witnesses testified on the airline safety and pilot training programs of the Federal Aviation Administration (FAA).", 2010)

Initially, the Bill was to amend the *Internal Revenue Code of 1986* that would extend funding and expenditure authority of the *Airport and Airway Trust*

*Fund* (26 U.S. Code 9502) signed into law for funds appropriated, credited, or paid into the trust fund and would further amend Title 49, United States Code, to extend airport improvement programs, project grant authority, to improve airline safety, and for other purposes. The Short Title of the act is *Airline Safety and Federal Aviation Administration Extension Act of 2010* ("*Airline Safety and Federal Aviation Administration Extension Act of 2010*", 2010). It is also referred to as Public Law 111–216 (PL 111-216) because of the section of the Act that increased the entry requirements of a First Officer entry into an air carrier pilot position (U.S. Congress, 2010).

Due to the amount of increased media attention and Congressional testimony from families of victims impacted by the Colgan Air Flight 3407 crash, the House of Representatives worked together with the United States Senate in a joint bipartisan effort to streamline Public Law 111-216 and within fifteen months from its introduction in the House of Representatives, sent the completed Bill to the President of the United States on August 1, 2010 to be signed into law.

Under the previous Federal Aviation Regulation (FAR) administered through the FAA, pilots could be hired at a regional airline at the age of 18 years with a minimum of 250 hours of total flight time and a commercial pilot's certificate complete with both instrument and multi-engine ratings. Now, under the new Public Law 111–216, those same pilots would need to be at least 23 years of age, have minimum of 1500 total flight hours, and unless they attended a higher education institution and earned a four-year professional pilot degree than the minimum number of hours for a Restricted Airline transport pilot (R-ATP) certificate would drop to 1000 hours. If, however, the applicant



for an (R-ATP) certificate were transitioning from the military, they would only need 750 hours to set for the (R-ATP) certificate.

The First Officer Rulemaking Committee (FOQ ARC) released its final report to Congress on September 9, 2010, indicating a reasonable plan to protect the public and assure that First Officers were adequately trained, however, Congress rejected the Committee's recommendations siding with the Families of Continental Flight 3407 (Administrator, 2009). Higher Education is not getting a say in how they are charged with training professional pilots but are required to follow a law that was drafted through patrician politics, to penalize the professional pilots that have devoted four years of their life to the craft and education required to fly for an airline.

This study draws on various theoretical, and educational leadership philosophies. This study is primarily built upon the work of scholars such as Michael Fullan, John Kingdon, Conlon, and Morgan & Benton to examine public policy implementation framework as it applies to the implementation at higher educational institutions and the educational change that is required as well as the capacity to carry out the policy and the stakeholders crafting the policy. This researcher recognizes Conlon, and Morgan & Benton findings that federalism is seen in the Reagan Administration and its ability to shift responsibility from the federal level to the state level of government led to what is now referred to as (New Federalism) (Advisory Commission on Intergovernmental Relations, 1984), however, this policy was designed to make cuts in the federal aid monies, and eliminate a multitude of federally funded state programs. Through Reagan's delegated approach he was able to enact legislation through Congress, that tied federal

funding and grant money to laws previously designed to fund education such as, Title IV of the Education Reform Act.

It is through the work of Fullan that we can introduce a middle approach involving the actors of the higher education institutions, along with the lobbyist of the state legislature. The state Board of Education and their federal counterpart, the US Department of Education through which Congress allocates Title IV student loan funding. Title IV appropriations are often used when mandating delegated policy implementation into higher education by the executive branch of government. Delegated policy implementation came about on January 25, 1965, when President Lyndon B. Johnson called upon Congress to improve education opportunities for America's children. A short four months later, President Johnson was presented with the Elementary and Secondary Education Act, which he signed into law on April 9, 1965 (20 U.S.C.: Education). By signing this Act President Johnson was able to create a nexus in the 14th Amendment of the United States Constitution allowing for The Executive Branch intervention.

I will discuss more how the government uses complex systems of funding mechanisms and policy directives and the power the presidential bully pulpit to shape the education students receive in Chapter 2 of this study. This study examines the underlying constructs for the implementation of public policy within a higher education school climate and the relationships between the faculty, staff, and administrators responsible for its attainment and achievement. In other words, I am interested in how higher education organizations implement Public Law, administered through financial aid packages and work in concert between the US Department of Education and the characteristics that

affect the student's educational performance in professional pilot programs. The study uses data from the Aviation Accreditation Board International (AABI) as a recognized accreditation organization throughout professional pilot career programs in higher education.

#### Purpose of The Study

The purpose of this study was to examine the implementation process and impact of federal laws among institutions of higher education that train students to become professional pilots. Using Fullan's framework to differentiate policy implementation (see Fullan, 2007), this study will examine three opposing forces of policy implementation at the higher education institutions: 1) Characteristics of Change; 2) Local Characteristics, and 3) External Factors. Specifically, I am interested in examining policy implementation of Public Law 111-216 among four-year public and private higher education institutions that offer a Bachelor of Science Professional Pilot degree and are accredited members of the Aviation Accreditation Board International (AABI) as of December 31, 2018.

Pilots graduating from higher education institutions have been held to a higher standard, than those pilots who are not collegially trained. Major airlines have a long-time history of encouraging pilots to seek a college education and have been using this as a milestone in their hiring of new pilots (Hunt, 1972). However, President Obama signed the Airline Safety and Federal Aviation Administration Extension Act (U.S. Congress., 2010) referred to as Public Law 111-216 (PL 111-216) into law. This new law changed the hiring and flying

hours required to meet the First Officer Qualification (FOQ) to be hired as a pilot with a Part 121 Air Carrier (Regional Airline). The effect of this law increased the minimum number of flying hours a pilot would need—initially 250 hours—raised to 1500 hours if not a college graduate, and 1000 hours if a college graduate with a Restricted -Air Transport Certificate (R-ATP), and 750 hours if transitioning from the United State Military to a Part 121 Air Carrier.

### Theoretical Framework

Fullan (2015) theorizes that without the proper policy implementation approach from the middle, higher education will not be equipped to analyze how the law will affect the learning outcomes of the students. By incorporating Fullan's (2015) theory of policy implementation from the middle, this study draws upon a scholarly foundation to explore how higher education, with flight departments, have implemented Public Law 111-216 and its associated effects. Fullan's theoretical framework also addresses the issue of the stakeholders and if they were given the opportunity to contribute input during the crafting of the policy. This study will explore Public Law 111-216 through Fullan's (2007) theoretical model describing how implementation from the middle is essential in higher education. The study will examine the characteristics of change; local characteristics; and external factors that affect policy implementation in higher education. This study will discuss more in-depth

Fullan's (2015) theory of policy implementation in chapter 2.

## The Significance of the Study

Higher Education Institutions that teach professional pilot training desire to become an FAA 141 approved institution—they can train, test, and certificate new pilots—however, they must follow a very rigorous curriculum and education degree format supported by the State Department of Education and the Federal Aviation Administration (FAA). The FAA ties the college's financial aid ability to the Title IV requirements mandating these institutions adopt all new federal policies as instituted by Congress. Public Law 111 – 216 signed by President Obama on August 01, 2010 is no exception to the financial aid funding requirements.

It is not uncommon for the federal government to use a delegated policy approach to force legislation on higher education and tie it to the grant money the institution receives (Mettler, 2014; Gage & Mandell, 1990; Shannon, 1987; Agranoff, 1986; Elazar, 1981; Schechter, 1981; & Wright, 1990). Fuller (2014) conducted a “history of financial aid to students” wherein he analyzed “several primary and secondary sources to provide a broad overview of the long and storied history of how societies provided aid to higher education students” (p.1). Michael Fuller was able to discern that “financial aid is increasingly driven by political priorities rather than student need or merit” (2014, p.1).

Mettler (2014) examined how policy implementation affects financial aid—now referred to as Title IV Entitlement—a higher educational institution gets from the federal government in the form of student loans. It is these loans that students use to pay for their education. However, Mettler (2014) points out

that in federal policymaking, there are some federal leaders who have become astute of the economic lures of a for-profit institution and do not regulate them as tightly as required-- possibly because of the for-profit institution's ability to lobby Congress more effectively-- than that of a not for profit institution. As a result, higher education has become more segregated among students who receive financial aid and those that do not.

Fuller (2014) conducted a "history of financial aid to students" wherein he analyzed "several primary and secondary sources to provide a broad overview of the long and storied history of how societies provided aid to higher education students" (p.1). Michael Fuller was able to discern that "financial aid is increasingly driven by political priorities rather than student need or merit" (2014, p.1).

Thus, if higher education institutions want to offer professional pilot training programs to their students, then they must comply with the federal laws. The impact of Public Law 111-216 has been felt through higher education aviation departments. According to the Airline Pilots Association (ALPA), the cost of flight training for a college student can reach as high as \$150,000 - \$200,000 (Jensen, 2015). Given the new minimum flight hour requirements of prospective pilots, the increasing cost of obtaining a professional flight degree, and the low entry-level wages being offered pilots, there is a decrease in pilots coming into the industry.

The findings of this study will impact the federal laws implemented by higher education actors through characteristics of change, local characteristics, and external factors that will be discussed in chapter 5 of this study.

## Research Questions

In this study, I used public policy implementation framework to examine issues of policy implementation at higher educational institutions and the educational change that is required as well as the capacity to carry out the policy and the stakeholders crafting the policy. Specifically, the study looked at Fullan's (2015) factors affecting implementation approach and how he links implementation to the issue of educational change. This study explored two research questions:

RQ1: To what extent has the implementation of Public Law 111-216 impacted your institution's professional flight program as it relates to the course curriculum, possible changes in the program, and additional training for teachers?

RQ2: To what extent has Public Law 111-216 led to unintended consequences, such as an increase or decrease in enrollment, prolonged graduation rates, and student retention rate?

## Definition of Terms

The definition's and Abbreviations contained in this section were retrieved from the FAA (Definitions and Abbreviations, 14 C.F.R. § 1 (2013).

**AABI**— The Aviation Accreditation Board International, which is currently the only specialized accrediting organization responsible for formally accrediting non-engineering aviation academic programs under the Council for Higher Education Accreditation.

**ABET**— Accreditation Board of Engineering and Technology is the CHEA recognized accreditor of colleges and university programs in applied

science, computing, engineering, and technology (Accreditation Board for Engineering and Technology, Inc., 2013).

**Accreditation**— The recognition that an institution maintains standards requisite for its graduates to gain admission to other reputable institutions of higher learning or to achieve credentials for professional practice.

**Airline Transport Certificate** — this is the highest pilot certification an Airmen can earn who have reached the of 23 years, can read and speak English, and understand the English language. The minimum flight time of 1500 hours is required, along with a flight test and a knowledge test.

**Airline Transport Pilot (ATP)** — an individual credentialed by the Federal Aviation Administration (FAA) to act as a pilot in command for an airline, on-demand flight operation (charter operator), corporate (part 91) operation, or as an individual who pilots an aircraft not for higher.

**ANPRM**— Advance Notice of Proposed Rulemaking.

**AOPA**— Airplane Owners and Pilots Association is a not-for-profit organization dedicated to preserving the freedom to fly (AOPA, 2012).

**ATA**— Air Transport Association, which is one of the trade organizations representing the principal U.S. airlines.

**ATP**— Airline Transport Pilot is an individual authorized to act as pilot in command for a scheduled airline.

**Aviation Administrators**— Includes the group of aviation professionals that assume a leadership role within the program, department, or college at four-year institutions offering aviation programs.



**CAA**— Council on Aviation Accreditation. Established in 1988 and reorganized in 2007 as the Aviation Accreditation Board International is an organization originally designed to provide specialized accreditation to aviation programs.

**CAPA**— Coalition of Airline Pilots Association is a trade association comprised of five members including Allied Pilots Association (American Airlines), Independent Pilots Association (UPS), Southwest Airlines Pilots Association (Southwest Airlines), Teamsters Local 1224 (Horizon Air, Southern Air, ABX Air, Atlas Air, Polar Air Cargo, Atlas Worldwide, Kalitta Air, Cape Air, Miami Air, Gulfstream Air, Omni Air and USA 3000), and US Airline Pilots Association (US Airways) (CAPA, 2012).

**CFR** — Code of Federal Regulations

**CHEA** — Council for Higher Education Accreditation is a national advocate and institutional voice for self-regulation of academic quality through accreditation (CHEA, 2012).

**Collegiate Aviation**—The sector of higher education that trains non-engineering aviation degree-seeking students at the associate through the doctoral level.

**Commercial Aviation** — the operation of aircraft, for profit, through the transportation of cargo or service.

**Commercial pilot** — individuals who operate aircraft for hire, through the transportation of cargo or services.

**Commercial Pilot Certificate** — a certificate (license) issued to a pilot who has passed the minimum 250 hours of flight time and completed a written and practical test.

**Commercial Pilot**—An individual who may, with some restrictions, fly for compensation or hire.

**FAA**— The Federal Aviation Administration is the national aviation authority created to regulate and oversee all aspects of civil aviation in the United States.

**FAR**— Federal Aviation Regulations are the rules prescribed by the FAA governing all civil aviation activities.

**Federal Aviation Administration Extension Act of 2010**—Legislation that increases the number of hours a pilot seeking an ATP certificate would need from 250 hours to 1500 without a four-year college degree; 1000 hours for pilots with a four-year professional pilot degree; and 750 hours for military pilots transitioning into civil aviation.

**Federal Aviation Regulation (FAR)** – administrative rules and regulations created by the Federal Aviation Administration that govern aviation activities within the United States.

**FO** –The first officer, used interchangeably with second in command.

**FOQ ARC:** First Officer Qualifications Aviation Rulemaking Committee

**H.R.5900** – House Resolution 5900, the precursor to the Airline Safety and

**IATA** – International Air Transport Association is an international industry trade group of airlines.

**NPRM** – Notice of Proposed Rulemaking.

**NTSB** – The National Transportation Safety Board is an independent organization responsible for civil transportation accident investigation.

**Part 121** – Code of Federal Regulations defining air carrier operations and scheduled airline operations in the United States.

**Part 121** – Code of Federal Regulations deals explicitly with air carrier operations or scheduled airline operations.

**Part 135** – Code of Federal Regulations defining on-demand and air charter operations within the United States.

**Part 61** – Code of Federal Regulations defining the regulations a pilot may be issued a pilot certificate (license) in the United States.

**Program Administrator** – Individuals who directly manage an aviation unit, to include program chairs, department heads, program leaders, and supervisors.

**Public Law 111-216** – Originally started as H.R. 5900, the Airline Safety and Federal Aviation Administration Extension Act of 2010 signed into law by President Obama on August 1, 2010.

**Regional accreditation** – A type of accreditation recognized by the Department of Education that accredits an institution.

**SIC** – Second in command—the pilot who is designated to be second in command of an aircraft during flight time. For this study, a SIC will be used interchangeably with First Officer (FO).

**Specialized accreditation**—The evaluation of programs, departments, or schools which usually are parts of a total collegiate or other postsecondary institution (Head & Johnson, 2011).

**Type rating** – A specific make and model of aircraft certification, rating, privilege, and limitation of an airman/pilot.

## CHAPTER 2

### Review of Related Research

#### Theoretical Framework

In this study I used the factors affecting implementation framework by Fullan, (2015), to further inform the issues of public policy implementation, among higher education institutions and the educational change that is required. I also looked at the capacity to carry out policy implementation, in addition to stakeholders crafting the policy. Specifically, the study looked at Fullan's factors affecting policy implementation of Public Law 111-216 at institutions of higher education, that were accredited by the AABI through December 31, 2018. The purpose of Fullan's factors affecting implementation framework is to explore the implementation of federal laws designed with higher education in mind.

Most importantly, my overarching theoretical framework operates on one fundamental assumption. That assumption is "Change Agent." Institutions of higher education should embrace the concept of becoming a Change Agent. Even though Peter Senge, reminds us that "People do not resist change. They resist being changed" (Senge, 1990, p. 63.), he also conveys that organizational change is the process in which an organization changes its behavior, to bring about the desired results (Senge, 2006). These institutions should appoint a public policy implementation committee designed to identify the institution's position as it relates to the proposed public policy and then uses Fullan's approach to manage from the middle. The committee can become successful in achieving their agenda if they are empowered by the institution to negotiate with the State Board of

Education and the US Department of Education simultaneously. The benefit of this is the institution's concerns are represented at the highest levels of both the state and federal government and are not financially motivated to secure a given outcome.

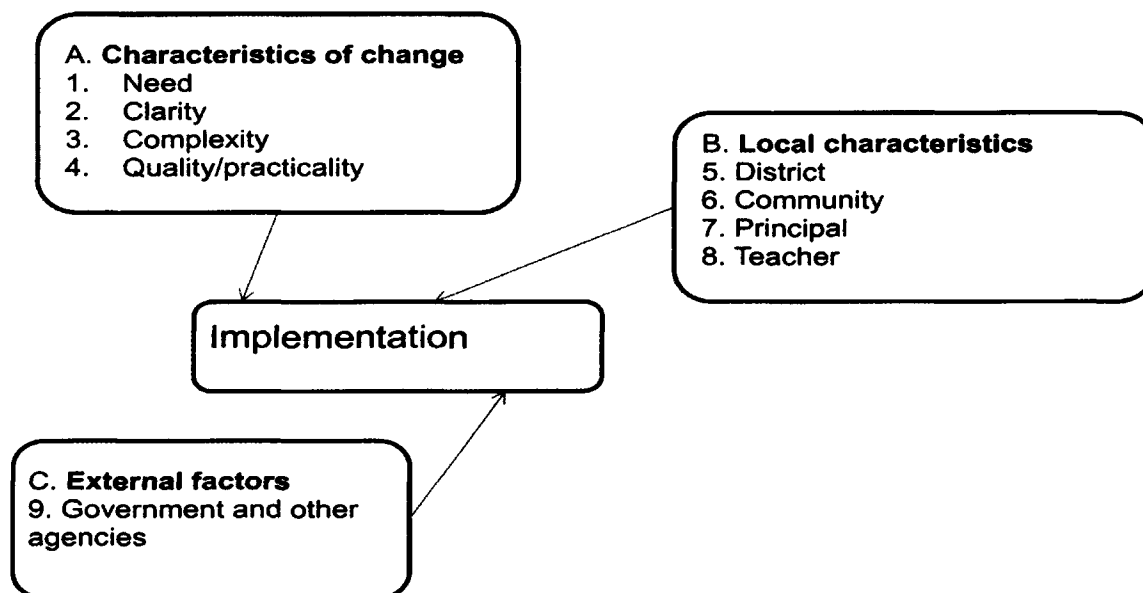
First and most importantly, higher education institutions can implement policy through establish change agents. This influence can come about by forming a policy implementation committee that is capable of undertaking in a dynamic process between state Board of Education and the US Department of Education. Failure to implement change agents “may result in implementation being ignored or else being confused with other aspects of the change process such as adoption (decision to use an innovation), or even the confusing of the determinants of implementation itself” (Fullan & Pomfret, p. 337-338). Before the Supreme Court ruled in *Brown v. the Board of Education* in 1954, the executive branch had no legal presidents for enforcing equal access to education. It was reliant upon the 10<sup>th</sup> and the 14<sup>th</sup> Amendment of the Constitution. The question then came about, how to involve the federal government in providing financial aid to those students attending public colleges throughout the United States? I previously spoke about how the 10<sup>th</sup> Amendment of the U.S. Constitution “provided a basis in legal theory that suggests the powers, not delegated to the United States by the Constitution, nor prohibited by it to the states, are reserved to the states respectively, or to the people” (U.S. Constitution. Amendment XIV), and 14<sup>th</sup> Amendments of the United States Constitution “prohibits any state from denying to any person within its jurisdiction the equal protection of the laws” (U.S. Constitution. Amendment XIV). The law is silent on how higher education institutions should go about enacting implementation. Public Law 111-216 is a clear example of a delegated Federalism approach to creating a federal law

and mandating that the state enforce it contrary to the *10<sup>th</sup> Amendment*. The law is tied to student financial aid under Title IV and strong-arms higher education institutions that rely upon Title IV entitlements for student tuition. It is crucial, that if Public Law 111-216 is to become successful, then we need to follow the theory of change agents and implement the law from the middle rather than from a top-down or the bottom-up approach.

Fullan (2015) theorizes that without the proper implementation approach from the middle, higher education will not be equipped to analyze how the law will affect the learning outcomes of the students. Furthermore, there is a need to address the massive increase in educational costs required for a student in a professional pilot program. Notwithstanding the anticipated attrition rate in part due to the time necessary to achieve the additional hours required under the law. Also, do the institutions of higher education have the financial and human resource ability to implement the new *legislation* effectively? Fullan's theoretical framework also addresses the issue of the stakeholders and if they were given the opportunity to contribute input during the crafting of the policy.

The factors affecting implementation framework by Fullan (2007) (see Figure 1) are used to examine the effects of the impact of Public Law 111–216 on higher education implementation such as: characteristics of change (need, clarity, complexity, and quality); local characteristics (district, community, principal, teacher); external factors (government and other agencies), and implementation.

Figure 1

*Factors Affecting Implementation Framework*

Source: Fullan 2007: 87

Fullan and Pomfret (1977) remind us of the importance of looking at implementation when considering educational change and if the change has occurred:

We just do not know what has changed unless we attempt to conceptualize and measure it directly; to understand some of the reasons why so many educational changes fail to become established; failure to do so may result in implementation being ignored, or else being confused with other aspects of the change process such as adoption (decision to use an innovation), or even the confusing of the determinants of implementation itself (Fullan & Pomfret, pp. 337-338).



## Related Research

The review of literature for the present study was divided into federal and state and municipal jurisdictions each designed to see where federal implementation of Public Law 111-216 fits into the higher education system. The first section looks at the history of policy implementation at the federal level of government. Next, this study reviewed the literature on policy implementation at the state level of government. Finally, literature was reviewed at the local governing boards. A section on policy implementation is included in the review as it is relevant to this study.

## Federal Policy

The process of policy implementation may differ based on who is in the White House and the political agenda they wish to set. The White House policy agenda is also at the mercy of which political party is controlling the Senate and the House of Representatives. The federal government uses a complex system of funding mechanisms, policy directives, and soft but considerable power of the presidential bully pulpit to shape what, how, and where students learn (Pelsue & Harvard Graduate School of Education, 2019).

Higher education is not immune to the political cadre of federalism and how it continually impedes upon the 10<sup>th</sup> Amendment to the United States. Fullan (2007) defines that when looking at factors affecting implementation, we must consider the character of change, local characteristics, and external factors. When we look at characteristics of change, we try to identify 1) the need, 2) the clarity, 3) the complexity and 4) the quality or practicality of the problem. Thus, we must

look back to Civics and how the laws came about affecting the government's hand in education.

The history of the creation of the Department of Education came about in 1867 with a need to collect information on students and schools by the States. The collection of this data was to help the States to develop a functioning and effective school system (U.S. Department of Education, 2017).

In 1890 the federal government passed a law, Second Morrill ACT opening up the Department of Education to implement control over land grant colleges and universities (U.S. Department of Education, 2017).

The Department of Education then concentrated their attention on vocational education in 1917 with Congress passing the Smith-Hughes Act which provided for federal aid to schools (U.S. Department of Education, 2017).

In 1941 Congress continued to empower the Department of Higher Education to help provide relief to people and businesses affected by the military and federal presence in their communities and made payments to the schools. Both the Lanham Act in 1941 and the Impact Aid Laws of 1950 worked together to bring forth the above school relief (U.S. Department of Education, 2017).

When World War II occurred, there was a considerable need for federal education support and Congress introduced the Lanham Act in 1941 in conjunction with the 1950 Impact Aid Law providing payments to the schools, impacted with the presence and federal institutions (U.S. Department of Education, 2017).

When military members started to return home in 1944, there was a need for higher education and the GI Bill was authorized to send almost 8 million veterans to college.

Before the 1954 Supreme Court decision in *Brown V. Board of Education* was decided, segregation was permitted under separate but equal doctrine in *Plessy v. Ferguson* (1896). However, when the Supreme Court in 1954 decided ("*Brown v. Board of Education of Topeka (1)*.", 1954) a unanimous decision by the justices delivered by Chief Justice Warren concluded:

Segregation of white and Negro children in the public schools of a State solely on the basis of race, pursuant to state laws permitting or requiring such segregation, denies to Negro children the equal protection of the laws guaranteed by the Fourteenth Amendment - even though the physical facilities and other "tangible" factors of white and Negro schools may be equal (p. 495).

Even though the 10<sup>th</sup> Amendment is designed to retain powers to the state that are not reserved by the federal government the 10<sup>th</sup> Amendment does not speak about education. In ("*Brown v. Board of Education of Topeka (1)*.", 1954), Chief Justice Warren states, "The history of the Fourteenth Amendment is inconclusive as to its intended effect on public education" (p. 489-490). However, the 14<sup>th</sup> Amendment of the U. S. Constitution "prohibits any state from denying any person within its jurisdiction the equal protection of the laws" (U.S. Constitution. Amendment XIV), and this equal protection clause applies "to any one, citizen or stranger residing within the state's boundaries" (U.S. Constitution. Amendment XIV). Evidence of this is seen in a delegated approach of policy implementation, utilized during the Reagan administration, to shift responsibility from the federal level to the state level of government (Conlon, 1988; Morgan &

Benton, 1985). Even though, President Reagan implemented what was referred to as the “New Federalism” (Advisory Commission on Intergovernmental Relations, 1984) a policy designed to make cuts in the federal aid monies and eliminate a multitude of aid programs funded to the state by the federal government, federalism was still at work with Congress enacting legislation that tied federal funding and grant money to laws previously designed to fund education.

However, contrary to President Reagan's attempt to curtail the tide of regulatory federalism an actual occurrence came about when national-level differences created a nexus for state and its local administrators to become more creative and introduce a bottom-up policy implementation approach. Through the conceptual shifts and altered attitudes between the governing powers and the introduction of the policy, agendas were successful in bringing to the forefront of non-hierarchical collegial in creating straight sets of relationships (Gauge & Mandel, 1990; Stever, 1992). The federal government exercises extensive influence over state and local government actions with the grant monies that they give and by Congress making the Department of Education a Cabinet-level agency in 1981 (U.S. Department of Education, 2017).

Thus, local governments are at the mercy of the federal governments to undertake activities the federal government deems appropriate, the local government would otherwise contraindicate that. Grants are sometimes seen as a significant instrument for instituting a hierarchical, centralized pattern into the American federal system. Ingram (1977) suggested that an intergovernmental authority pattern is characterized more by two-way bargaining and Pressman (1975) believe that a compromise between the

governmental units rather than by one directional hierarchical control was better for both governing authorities. Thus, supporting lobbying between government units.

### State Policy

The research literature for state policy implementation tends to look at state higher education governance structures, coordinating boards and governing boards when dealing with higher education lobbying and state legislators. Burkum (2009) conducted a mixed methods study about the role of state higher education governance structures and the potential state-level lobbying that may occur. The author utilized Milbrath's (1963) communications model of lobbying and Browne's (1985) roles model as a theoretical framework/model. Even though Burkam (2009) results indicated the need for lobbying at the state level, this is a cyclical event that was demonstrated during the resurgence of the state's during the 1970s and 1980s and more specifically during the administration of President Reagan. The cyclical component is contained in the work of Bowman and Kearney (1986), Eisinger (1988), and Osborne (1988) describing the aspects the states undertook and the forms that evolved such as: better organization, an active legislature, aggressive revenue-raising efforts, policy innovations from-the-bottom-up, and the need for an increase in state-level representation in the form of state lobbyists, who will actively lobby the federal government based on the Governors policymaking needs and not the federal government's federalism approach to education (Bullard & Wright, 1993; Wright & Cohen, 1991).

The research at the State level is consistent with policy implementation at higher education institutions and runs consistent with the research findings by authors at the federal level.

### Governing Bodies

Governing bodies, such as the State Board of Regents, are typically found at the state level, and function as a pass-through for federal legislation that could not ordinarily in due course pierce the 10<sup>th</sup> Amendment of the United States Constitution, wherein the State is responsible for its citizens. However, it's not unusual for special interest groups and lobbyists to lobby between federal and state lawmakers, on behalf of both k-12 which is compulsory and higher education, which is much more about human capital development, to push forward an acceptable agenda of public policymaking as indicated by Burkum (2009), Mixon (2015), and Natow (2013).

Research shows that an impact to an institution of higher education's curriculum and the need for possible changes in the program and additional training for teachers are supported in the literature through (Albee, 2010; Leimer, 2011; Mixon, 2015, Natow, 2013). Prior research like Public Law 111 – 216 had similar unintended consequences, such as an increase or decrease in enrollment, prolonged graduation rates, and student retention rates when attempting to implement federal and/or state legislation at an institution of higher education (Albee, 2010; Leimer, 2011; Mixon, 2015, Natow, 2013). Research conducted on the implementation and effects of Public Law 111 – 216 is supported in the study by (Albee, 2010; Burkum, 2009 Leimer, 2011; Mixon, 2015, Natow, 2013).

## Policy Implementation

Policy implementation is a diverse field of study, primarily in the social sciences (Diamond, 2007). Over the last 30 years, this field has evolved through increased research (Sabatier & Mazmanian, 1979), the introduction of comprehensive approaches leading to policy implementation (Fullan, 1994; Kohoutek, 2013; Maryland, 1995), and the development of bottom-up theories (Fullan, 1994; Honig, 2004; Matland, 1995).

Michael Fullan is a proponent of change, and implementation co-occurring and believes that change is initiated from many different sources (2007, p. 81). Next, I review the origins of policy implementation to understand better how government actors interact with external higher education intuitions in policy implementation.

## Policy Implementation Theory

To understand the theoretical perspectives on policy implementation theory this study reviews the literature on its implementation. I will begin with a three-phase approach to the introduction of policy implementation that dates to 1965 when its origins first started (Pressman & Wildavsky, 1973). Pressman and Wildavsky were two theorists who based most of their theories on a study about Economic Development Agency projects in Oakland, California that was funded by the United States federal government in 1965 (1984). This was the first time that research and policy implementation attempted to link politics and economic analysis of policy implementation in an institutional analysis of public administration (Hjern & Hull, 1987).

The three phases of this research are referred to as generations; first, second, and third. The use of nomenclature is found in the literature of (Goggin 1990; Howlett & Ramesh 1995; Pal, 2006). In keeping with this study's theoretical framework by Fullan on the factors affecting implementation, this study will limit itself to the literature identifying the theoretical perspectives on policy implementation, organization, and governance, and how government agencies interact in higher education institutions in the implementation of federal policies affecting those institutions.

The first-generation research on policy implementation came about when the merits of top-down and bottom-up approaches were grouped under the label of "first-generation" (Hill & Hupe, 2002, p.100). When the field of inquiry emerged as a top-down approach in the literature (Bardach 1977; Pressman & Wildavsky 1973; Sabatier & Mazmanian, 1981), critics of this approach believe the empirical and theoretical assumptions were not a good fit and failed to gain approval as a policy delivery method among democratic societies. Thus leading to the creation of a bottom-up approach designed to examine the political process of policy implementation from the ground up. More specifically, public administration officials interacted with street-level public officials who had the ear of societal interests (Barrett & Fudge 1981; Elmore 1981; Kickert 1997; Klijn, 1996). A second-generation of researchers synthesized the insights of both the bottom-up and top-down approaches to form a conceptual framework that consisted of several theories of implementation (O'Toole, 1986; Palumbo & Calista, 1990; Sabatier, 1986). The second-generation scholars left us with a list of variables and complex diagrams of casual chains from two perspectives (Exworthy & Powell, 2004; Linder & Peters, 1987; Sinclair, 2001).



The third-generation of researchers developed a flexible framework in the latter part of the 20<sup>th</sup> century (Winter, 1990). The researchers had hoped to create more of a longitudinal inquiry and cast broader generalizations (Goggin, 1990). It was not until the late 1980s that the process of policy implementation became influenced through the decentralization in public administration leading to the use of the third independent agencies such as public sector activities (municipal services or military supplies), use of governmental organizations (provide program delivery); and individual volunteers (Borins, 2006), and casting relationships in service delivery (Kettl, 2000; O'Toole, 2000; Pal, 2006). Kernaghan, Borins, and Marson believe that the new inter-organizational partnerships are more likely to remain a permanent source in policy implementation (2000).

When considering the three generations this study described, it was the belief of (Linguist, 2006; & O'Toole, 2000), that implementation research shifted from a meta-theory approach to attempting to explain concerted actions across institutional boundaries. When considering federal policymaking during the same time frame, the Higher Education Act Reauthorization of 1972 provided an extensive review of the policy process leading up to the reauthorization of the act, and the roles played by the White House, the Higher Education Lobby, and Congress (Gladiuex & Wolanin, 1976).

## Policymaking Theory

A review of the literature suggests that multiple categories of policy theory exist and have been commonly used to understand federal policymaking as it relates to higher education in the implementation of policymaking. By exploring the works of Sabatier and Weibel (2014) *Theories of Policy Process*, this study will be better informed of the conventional theories within U.S. policy research. One traditionally accepted theory of policymaking has been the stages approach. Stages theory suggests that policymaking be divided into stages of problem formation, implementation, policy identification, and evaluation. This theory has received criticism over time for simplicity--more suited for how a bill was created and becomes law-- which may be part of the curriculum taught in textbooks in a K-12 environment (Sabatier, 1991). Because this approach deals with a linear model, actors wishing to influence the policy process are blocked due to the sequence of events.

## Multi-Streams Approach

Kingdon (2003) is well known for his work in multiple streams approach. Specifically, Kingdon discusses how the President of the United States of America is a compelling person when it comes to policymaking. The President is the only single actor who can set an agenda around his own policy beliefs and further his quest by guiding his plan using the Oval Office. Often the Oval Office is referred to as the bully pulpit serving as a symbolic power in terms of speeches and events.

Kingdon (2003) provide three separate streams for policymaking: the policy stream, the politics stream, and the problem stream. Each of the streams has their actors

and policy can change when a person can utilize the streams that create the correct balance required to open the policy window (Kingdon, 2003; Nowlin, 2011).

#### Advocacy Coalition Framework

The advocacy coalition framework centers around the premise that coalitions with the same core set of beliefs can impact and change policy over time (Jenkins-Smith, Nohrstedt, Weible, & Sabatier, 2014). There is evidence of advocacy coalition in higher education policy found in historical literature. Interest group politics is a definite theme that transcends across multiple genres in federal higher education advocacy (Cook, 1998; Gladieux & Wolanin, 1976; Mettler, 2014; Wolanin, 1975).

#### Relationships Between Prior Research and Present Study

The relationship between my present study and prior research conducted is linked to the implementation process and outcomes of federal policy in higher education. This has led me to review theorists who are experts in the field of policy implementation.

Amy Albee (2010) performed a case study relating to the *American Graduation Initiative of 2009* that was put into place by the Obama Administration. It was aimed at increasing the number of higher education graduates by 2020. Her theory was based on standardized state performance measures. She looked at performance policy in higher education and how it was implemented among institutions within the Florida College System. Her findings were consistent with the bottom-up approach, encouraging local administrators to manage more creatively and constructively (Executive Order 12612), once again a

cyclical event of "New Federalism" introduced by President Reagan. Albee (2010) was met with a challenge in federal education funding based on a Race to the Top initiative set up by the Obama Administration. By tying higher academic success to standardized testing, the schools are rewarded with education funding for superior performance.

However, Albee's findings did confirm the following:

Policy implementation in the community college context, like that in public education generally, is affected by institutional context and the policy environment. The results corroborate lessons from the decades-old literature on implementation, beginning in the 1970s, that demonstrated that implementation is both place and context-sensitive (Albee, 2010).

Amy Albee (2010) goes on to discuss the governance structure, found within the policy environment, it does involve multiple actors in different departments or levels of government who do not know all work within the same chain of command (as cited in Manna and O'Hara 2005). Albee does confirm in her study the following, " In the case of the study institutions, the governance structure influenced performance policy implementation through the interrelationship of the college board of trustees, college executive staff, and Department of Education" (2010, p. 140).

Thus, incorporating the need for student support mechanisms as well as the various restructuring of faculty and staff to accommodate an implementation method for policy performance in higher education.

Natow (2013) evaluates federal rulemaking processes and a qualitative embedded case study design that looks at the Department of Education political process of federal rulemaking for higher education. Her findings indicate that federalism is still widely used by the Department of Education to the White House.

In summary, the prior literature helps to inform this research on how Public Law 111-216 came about, and the method of policy implementation used to mandate the law be followed by those higher educational institutions desiring to retain their Title IV Entitlements. It also sends a message to institutions of higher education to implement the law or risk not complying of Title IV legislation.

## CHAPTER 3

### Method

Chapter three describes the procedures for gathering and analyzing the data. The first section describes the participants in the study and provides a more general description of the research design. The second section offers more detail about how the data was gathered, and how the data was collected. The third section illustrates the specific way the data was analyzed.

Participating faculty, staff, and administrators, who are the point of contact, on the AABI membership as of (2019), for accredited and nonaccredited professional flight programs were invited to take part in the study. The participants consisted of 37 AABI accredited institutions and 37 Non-AABI accredited institutions. Because the investigator, at the time of this study, is employed with one of the AABI accredited institutions, as a faculty member, that institution was omitted from the 38 accredited AABI institutions. Thus, reducing the population surveyed to 37 AABI accredited and 37 AABI non-accredited institutions. The study survey instrument was presented to a pilot jury of doctorate and tenured aviation scholars in higher education, to validate the survey.

#### Hypotheses/Specific Research Questions

In order to describe higher education faculty perceptions of four-year aviation department implementation of Public Law 111-216, the research design for this study included both descriptive and inferential statistics.

This study used public policy implementation framework to examine issues of policy implementation at higher educational institutions. It explored the educational

change that occurs among faculty and administrators responsible for carrying out the policy and the stakeholders crafting the policy. Specifically, the study looked at Fullan's Factors affecting implementation approach and how he links implementation to the issue of educational change (2015). This study tests those theories through the research questions identified below:

1. To what extent has the implementation of Public Law 111-216 impacted your institution's professional flight program as it relates to the course curriculum, possible changes in the program, and additional training for teachers?

Pearson Correlation was used to determine if the correlation was significant at the 0.05 level. The mean, median, and standard deviation were also used to answer question one.

2. To what extent has Public Law 111-216 led to unintended consequences, such as an increase or decrease in enrollment, prolonged graduation rates, and student retention rate?

Pearson Correlation was used to determine if the correlation was significant at the 0.05 level. The mean, median, and standard deviation were also used to answer question one.

This study explored the following hypothesis:

H1: The impact of Public Law 111 – 216 has created programmatic changes in higher education professional flight programs.

H0: The impact of Public Law 111-216 has not created programmatic changes in higher education professional flight programs.

## Research Design and Data Analysis

The research design includes descriptive and inferential statistics to describe collegiate faculty data responses. Hignon-Smith (1995) indicates that descriptive research is used to understand the opinions of a group toward an issue at a specific time. In this study, the researcher wants to understand higher education faculty perception of the implementation of Public Law 111-216 among AABI accredited institutions.

Before any data was gathered, internal review board approval was received from St. John's University. The Internal Review Board granted an exemption for the study (Appendix A). An electronic version of the pilot reviewed survey was created in Qualtrics software, on the St. John's University student website. Permission to access the software was obtained from the appropriate university department. I distributed the research survey to 37 private and public collegiate universities that are accredited and 37 non-accredited members of the AABI using the Qualtrics Software. The email address of the AABI member for both accredited and non-accredited institutions was entered into the Qualtrics software. The survey was anonymous to the researcher once the data was received.

After the 30 days had expired from the beginning of the survey release, I called each member who had received the survey and inquired if they received the survey and if they would take a few minutes to complete the survey. I was asked many times if I was the researcher because most had already completed the survey and wanted to know why I did not have it? My answer was this was an anonymous survey, and I had no way of knowing who returned which survey and this was the reason for the call to all the member as a friendly reminder. This study protected the identity of the research



participants by implementing the following procedures: (1) participants in the study were notified by an introduction segment on page one of the survey indicating that their participation is strictly voluntary, their responses will be kept confidential, and their responses will be coded by the researcher in such a manner as to ensure a participants anonymity in order to conduct statistical analysis, (2) the research survey will not ask the participants to identify their names or their institutions name, (3) by prohibiting the participants from identifying their name or their institutions name, any response given by each of the faculty and administration participants would be unable to be linked back to their respective institution, and (4) the researcher will analyze the anonymous responses received from the faculty and administration participating in this study with IBM's version of Statistical Package For Social Sciences (SPSS).

Even though, this study is exploratory. It was designed to examine and describe the perceptions of the faculty who teach and administer the implementation of Public Law 111-216 at their respected institution. Demographic information will be collected to characterize the faculty and administration.

### Sample

The sample for this study consists of faculty and administrators identified as the point-of-contact member of the Aviation Accreditation Board International (AABI) during the 2018 membership year. As previously discussed in prior chapters, the date of this membership marks the fifth year in which Public Law 111-216 took effect in August 2013. The implementation of the law within higher

education has had five years to become ingrained in the culture of the higher education institution. The first graduating class affected by the new law have been in the aviation industry now for one year. Those that choose to become a Certified Flight Instructor (CFI) before graduating college and gained employment teaching student pilots would be making application to the regional airlines this year. Moreover, the timeline from the start of the signing of Public Law 111-216 to the date of this study provides for rich data, on how the higher education institutions have implemented the new law and their policy approach to achieving implementation.

#### Instruments

The research survey for this study, *Airline Safety and Federal Aviation Administration Extension Act of 2010: How Policy Theory Applies to Professional Pilot Flight Programs in Higher Education* (Appendix A) was created by the researcher which consists of thirty-one questions. The instrument was divided into three sections consisting of a five-point Likert Scale, demographic questions such as "How many professional-pilot students are enrolled in at your institution?" and open-ended qualitative questions designed to examine the themes, patterns, and discrepancies. When combining the three parts of the survey, they described the participant's perception of the implementation of Public Law 111–216 in higher education. The survey examines (1) the extent of Public Law 111-216 impact on higher education professional flight programs; (2) the unintended consequences in enrollment, prolonged graduation rate, and student retention rate; and (3) implementation variance by different institutions. The final section contains a comment box that allows the participants to include personal comments, not previously covered in the survey, related to their perception of the

implementation and any affects Public Law 111-216 might pose positively or negatively on the institution's flight program and the professional flight students enrolled in the program.

Section one of the survey is designed to generate demographic information identifying the institution faculty and administration background information such as current level pilot certificate held, any ratings added to the certificate years taught teaching in a professional pilot program, and if the participant is a faculty member or administrator of the institution. The next section of the research survey consists of a series of Likert scale questions with ordinal measurement patterns ranging from (1) strongly agree, (2) agree, (3) disagree, and (4) strongly disagree. The third section of the research survey includes a text box designed to explore the themes, patterns, and discrepancies respondents demonstrated when asked to write comments regarding the public policy implementation of Public Law 111-216 and if they felt the effects were positive or negative on their institution and the professional pilot students enrolled in the program. The survey distributed to the respondents was in an ungrouped format (Appendix B).

#### Validity

The survey was submitted to a pilot group of five experts in the field of aviation to discern its validity in this study. The group consisted of three faculty members from AABI Accredited Universities and two faculties from non-AABI Accredited Universities. The original survey was replaced by the current survey in (Appendix B) after four of the faculty made recommendations that three questions be changed, and one question added.

## Reliability

The survey was analyzed in SPSS for reliability using Cronbach's alpha to calculate the coefficients of internal consistency for each of the survey variables.

Cronbach's alpha is .789 shown in Table 1.

Table 1

<i>Cronbach's Alpha Based on</i>		<i>N of</i>
<i>Cronbach's Alpha</i>	<i>Standardized Items</i>	<i>Items</i>
9	.778	9

### *Reliability Statistics*

Descriptive frequency analysis was conducted to analyze demographic data collected from respondents, consisting of the job title of the respondent, number of aircraft the respondent's institutions use, and the number of students the respondent has enrolled in the professional pilot program. In addition to descriptive statistics, the study used inferential statistics and qualitative analysis to explore the themes, patterns, and discrepancies revealed through the respondents own personal comments, in the last two questions of the questionnaire, as they pertain to Public Law 111- 216 and its implementation in higher education.

Through detailed methodology, the researcher used a questionnaire to solicit collegiate flight faculty demographic information, opinions, and personal comments in an attempt to draw personal perceptions regarding post-Public Law 111– 216

implementations (Denscombe, 2014). The research questionnaire was distributed nationally to private and public four-year universities that were members of the AABI.

Participating universities were selected because they offer extensive curriculums in aviation that award a bachelor's degree in professional pilot/flight professional.

The research population for the study was selected by judgment sampling. Judgment sampling is defined as "elements selected for the sample being chosen by the judgment of the researcher" (Black, 2010, P. 225). The sample population for this study consisted of collegiate flight faculty staff and administrators known as actors who met the following criteria being enrolled at your public and private universities located in the United States which offer comprehensive aviation curriculums and awarded a four-year bachelor's degree with a major in Professional Pilot or Aviation Management.

Research participants had the identities protected by using the following procedures: (1) participants were notified in the introduction segment of the first page of the research questionnaire that their participation was strictly voluntarily and that their response would be kept confidential and would be anonymously coded by the researcher for statistical analysis, (2) research questionnaire did not ask participants to identify their name or their university name, (3) because participants did not identify the name or universities, each participant gave the responses could not be linked back to the collegiate flight institution, and the researcher anonymously coded (4) response by the participating respondents and analyzed by the IBM Statistical Program for Social Science (SPSS). This study utilizes data from the AABI, an internationally recognized accreditation organization, designed to provide higher education specialized accreditation for

professional pilot programs offering a Bachelor of Science degree with a Professional Pilot major or Aviation Management. This chapter explains the methodology used to analyze perceptions of US higher education implementation of Public Law 111 – 216. The sample includes approximately 38 AAPI accredited institutions.

#### Procedures

The procedure this study utilized involved the collection of data by submitting a survey in the form of a Qualtrics Survey electronically over the internet to the AABI accredited institution contact person as identified in the AABI Membership Guide 2018. This document is available by contacting the AABI and requesting a copy. There will be approximately 38 institutions that are AABI accredited across the United States at the time of this study. The second part of the procedure for collecting data was to search each of the AABI accredited institution's websites, identify the higher education four-year baccalaureate professional pilot degree-granting institutions and contact the AABI faculty member via their institutional email address. This researcher will ask for the potential participation of the individual. The initial email will be sent through Qualtrics Survey Software explaining the academic and professional importance of the study and will include the instructions on how to complete the research survey and return it to the researcher through Qualtrics Survey Software. The researcher will allow two weeks from the date of the initial survey email being sent out, to the prospective recipient, and they will send a blanket follow-up email reminding the participants of the importance of completing the survey and returning it via email to the researcher.

After the initial email requesting participation from the potential participant has been sent, the researcher will wait 30 days to allow enough time for all potential research

participants to return the survey. The researcher will then call each person being surveyed to follow up on their participation. The researcher will then, after receipt of the survey data will begin to code and analyze the data received via Qualtrics Survey Software and IBM SPSS.

## CHAPTER 4

### Results

This study examined the Airline Safety and Federal Aviation Administration Extension Act of 2010, and how policy theory and implementation were applied by professional pilot flight programs in higher education. The following information discusses the statistical analyses, as well as, what themes, patterns, and discrepancies occurred, in the survey data, and how they attribute to the research questions. A demographic review will be presented first; the response rate data will be discussed; and finally, a review of the research question data findings will be presented.

#### Demographic Data

The respondents in the study consisted of 37 AABI accredited and nonaccredited higher education institutions with a four-year degree program leading to a Bachelor of Science with a major of a professional pilot or aviation management. The respondents consisted of faculty and administrators in the Department of Aviation who was listed as the point of contact from the AABI. The list is available upon request from the AABI. As previously stated, the researcher is employed as a faculty member, at one of the AABI accredited institutions and to reduce investigator bias that institution was removed from the AABI list of accredited institutions for the survey purposes. The respondents answered demographic questions relating to the implementation of Public Law 111-216 among four-year public and private higher education institutions that are actively engaged in the training of professional pilots. The accreditation status was broken down in the study to represent respondents that were AABI accredited institutions and non-AABI accredited institutions. The response status of the respondents is broken down in



Table 2 after the missing data had been coded as .99 and not included in the statistical study. Creswell believes any missing data that appears to be inaccurately reported, is unusable and should be removed or identified in such a manner as to exclude the data from the data set (2008). Table 2 represents the demographic data received, after the missing data previously reported as .99, was recoded.

Table 2

*Recoded Missing Data*

		<i>External Data Reference</i>	<i>ID</i>
N	Valid	31	31
	Missing	0	0
Mean			16.00
Median			16.00
Std. Deviation			9.092
Variance			82.667
Range			30
Minimum			1
Maximum			31
Sum			496

The survey respondents from the study consisted of 37 faculty and administrators from different four-year institutions that have an active aviation degree-granting professional pilot program. The first three questions of the survey solicited demographic information about the respondent such as the institution type, where they work at, the size

of their flight training fleet, and the number of students currently enrolled in an aviation program at their higher education institution.

Table 3 describes the number of respondents by job description who returned a completed survey and non-completed data coded at .99. The respondents were 8 (34.8%); Faculty 7 (30.4%); Program Administrator 7 (30.4%); Other 1 (4.3%). Missing respondents accounted for 7 (22.6%).

Table 3

*Please identify your position at your institution*

		<i>Frequency</i>	<i>%</i>	<i>Valid %</i>	<i>Cumulative %</i>
Valid	Department Chair	8	25.8	34.8	34.8
	Faculty	7	22.6	30.4	65.2
	Program Administrator	7	22.6	30.4	95.7
	Other	1	3.2	4.3	100.0
	Total	23	74.2	100.0	
Missing	-.99	7	22.6		
	System	1	3.2		
	Total	8	25.8		
Total		31	100.0		

The breakdown of the respondents in this study is as follows 31 (83.7%) faculty and administrators who returned completed survey data out of the 37. There were 7 (22.6%) respondents that did not complete the survey data and were coded as .99. There

were 17 (54.8%) AABI accredited respondents that returned a completed survey. There were ten (32.3%) non-accredited respondents that returned completed questionnaires.

There were three corporate respondents that returned a completed questionnaire.

Table 4 discusses the institutional aircraft fleet size ranging from the smallest 1-5 aircraft 1 (4.3%) to the largest More than 45 aircraft 7 (30.4%).

Table 4

What is your institution's flight training fleet size?

		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Valid	1-5	1	3.2	4.3	4.3
	6-10	3	9.7	13.0	17.4
	11-15	1	3.2	4.3	21.7
	16-20	3	9.7	13.0	34.8
	21-25	4	12.9	17.4	52.2
	26-30	2	6.5	8.7	60.9
	31-35	1	3.2	4.3	65.2
	36-40	1	3.2	4.3	69.6
	More than 45	7	22.6	30.4	100.0
	Total	23	74.2	100.0	
Missing	-99	7	22.6		
	System	1	3.2		
	Total	8	25.8		
Total		31	100.0		

Table 5 discusses the number of students reported by respondents currently enrolled in their flight department. The chart indicates in terms of the least amount of student between 1-50 respondents reported 2 (8.7%) and the largest amount of student currently enrolled in higher education aviation department program of More than 250 with respondents reporting 13 (56.5%).

Table 5

*How many students are currently in your flight department?*

		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Valid	1-50	2	6.5	8.7	8.7
	51-100	4	12.9	17.4	26.1
	151-200	1	3.2	4.3	30.4
	201-250	3	9.7	13.0	43.5
	More than 250	13	41.9	56.5	100.0
	Total	23	74.2	100.0	
Missing	-99	7	22.6		
	System	1	3.2		
	Total	8	25.8		
Total		31	100.0		

### Research Questions

This section of the survey explores the findings from two research questions designed to examine the impact of federal law among institutions of higher education that train students to become professional pilots. By using Fullan's framework to differentiate policy implementation (Fullan, 2007), the research questions examined three opposing forces of policy implementation within higher education institutions. Those forces are 1) characteristics of change; 2) local characteristics; and 3) external factors.

### Research Question 1

The first research question addressed the extent of Public Law 111-216 impact on higher education professional flight programs? This question was designed to determine if a connection between the External Factors and Local Characteristics of the teacher and higher education institutions followed Fullan's (2007) Implementation Framework. The survey data collected from questions 5, 6, 7, 8, 10, 11, 12, 13, 17, 23, and 25 were input

into SPSS, and a Pearson's Correlation analysis was performed to determine the strength and direction of the relationship between the variables (Cronk, 2010). The data is displayed in Table 6 for the Mean and Standard Deviation and in Table 7 for the correlation of data as follows: There was a significant moderate relationship between the capacity to implement Pub Law 111-216 (M = 2.22, SD = .850), an institution fully implemented the Public Law 111-216 (M = 1.17, SD = .491)  $r = .461$ ,  $p = .027$ .

There was a significant moderate relationship between the Pub Law 111-216 being fully implemented (M = 1.17, SD = .491), and satisfied with implementation process of Public Law 111-216 (M = 1.22, SD = .422)  $r = .687$ ,  $p = .001$ .

There was a significant moderate relationship between being involved in the law-making process of Pub Law 111-216 (M = 2.22, SD = .850), and a positive effect on pilot safety (M = 2.35, SD = .775)  $r = .501$ ,  $p = .015$ .

There was a significant moderate relationship between the curriculum compliance (M = 1.13, SD = .344), and full implementation of Public Law 111-216 (M = 1.17, SD = .491)  $r = .666$ ,  $p = .001$ .

There was a significant strong relationship between curriculum compliance (M = 1.13, SD = .344) and satisfied with implementation process (M = 1.22, SD = .422)  $r = .735$ ,  $p = .001$ .

There was a significant moderate relationship between the curriculum compliance (M = 1.13, SD = .344), and positive effect on pilot safety (M = 2.35, SD = .775)  $r = .503$ ,  $p = .014$ .

There was a significant strong relationship between the faculty capability to implement Pub Law 111-216 ( $M = 1.09$ ,  $SD = .288$ ), and full implementation of Public Law 111-216 ( $M = 1.17$ ,  $SD = .491$ )  $r = .852$ ,  $p = .001$ .

There was a significant moderate relationship between the faculty capability to implement Pub Law 111-216 ( $M = 1.09$ ,  $SD = .288$ ), and satisfied with implementation process ( $M = 1.22$ ,  $SD = .422$ )  $r = .586$ ,  $p = .003$ .

There was a significant moderate relationship between the faculty capability to implement Pub Law 111-216 ( $M = 1.09$ ,  $SD = .288$ ), and positive effect on pilot safety ( $M = 2.35$ ,  $SD = .775$ )  $r = .469$ ,  $p = .024$ .

There was a significant strong relationship between the faculty capability to implement Pub Law 111-216 ( $M = 1.09$ ,  $SD = .288$ ), and curriculum is in compliance with Public Law 111-216 ( $M = 1.13$ ,  $SD = .344$ )  $r = .797$ ,  $p = .001$ .

There was a significant moderate relationship between the faculty participation in the implementation process of Pub Law 111-216 ( $M = 1.52$ ,  $SD = .511$ ), and satisfied with implementation process ( $M = 1.22$ ,  $SD = .422$ )  $r = .505$ ,  $p = .014$ .

In conclusion, the variables for research question 1 were highly correlated. The faculty and administrators were in agreement on issues relating to the implementation of Public Law 111-216 and their satisfaction of the same. An important finding was respondents believe that the number of hours a pilot is required to have makes a difference, and the majority chose the quality over quantity. Thus, reinforcing Fullan's (2015) theory that without establishing a change agent to represent the polis among the external factors, such as "government and other agencies" (Fullan, 2007:87) the higher education institutions may not have their opinion heard. Another interesting finding is

when respondents were asked if they participated in the implementation process in the survey, 52.2% indicated they did not participate.

Table 6

*Descriptive Statistics Research Question 1*

<i>Survey Question</i>	<i>Mean</i>	<i>SD</i>
Institution capacity to implement Public Law 111-216?	1.30	0.559
Institution fully implemented Public Law 111-216?	1.17	0.491
Are you satisfied with the implementation process of Public Law 111-216 at your institution?	1.22	0.422
Qual. vs. Quant. of Hours Flow to Issue R-ATP?	2.91	0.288
Positive effect on pilot's safety from Public Law 111-216?	2.35	0.775
Curriculum is in compliance with Public Law 111-216?	1.13	0.344
Faculty is capable of implementing Public Law 111-216?	1.09	0.288
Did you participate in the implementation of Public Law 111-216 at your institution?	1.52	0.511
Involved in the law-making process of Public Law 111-216 at your institution?	2.22	0.850
Degree Type Conferred	1.17	0.834
Bridge Agreement	2.09	0.996

*Note.* Survey Question is in abbreviated form for table display.

Table 7

*Correlations for Research Question 1*

		<i>LM</i>	<i>CIL</i>	<i>FIL</i>	<i>SIP</i>	<i>QVQ</i>	<i>PSP</i>	<i>CC</i>	<i>FCIL</i>	<i>PIPL</i>	<i>DTC</i>
<i>CIL</i>	r	-0.337									
	p	0.116									
<i>FIL</i>	r	-0.312	.461*								
	p	0.147	0.027								
<i>SIP</i>	r	-0.011	0.285	.687**							
	p	0.960	0.187	0.000							
<i>QVQ</i>	r	-0.290	0.172	-0.210	-.586**						
	p	0.179	0.433	0.337	0.003						
<i>PSP</i>	r	.501*	-0.151	0.192	0.314	-.673**					
	p	0.015	0.493	0.380	0.144	0.000					
<i>CC</i>	r	0.054	0.257	.666**	.735**	-.797**	.503*				
	p	0.807	0.237	0.001	0.000	0.000	0.014				
<i>FCIL</i>	r	-0.081	0.393	.852**	.586**	-.452*	.469*	.797**			
	p	0.714	0.064	0.000	0.003	0.030	0.024	0.000			
<i>PIPL</i>	r	-0.273	-0.104	0.347	.505*	-0.295	-0.020	0.371	0.295		
	p	0.208	0.637	0.105	0.014	0.171	0.928	0.082	0.171		
<i>DTC</i>	r	0.201	-0.119	-0.077	-0.112	0.066	0.183	-0.083	-0.066	-0.223	
	p	0.359	0.589	0.726	0.610	0.765	0.402	0.708	0.765	0.307	
<i>BA</i>	r	0.030	0.359	-0.032	-0.372	0.344	-0.159	-0.167	-0.028	-.540**	0.200
	p	0.891	0.093	0.884	0.081	0.108	0.469	0.446	0.901	0.008	0.361

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\* Correlation is significant at the 0.01 level (2-tailed).

Note. LM = law making; CIL = capacity to implement law; FIL = fully implement law; SIP = satisfied in implementation process; QVQ = quality v. quantity; PSP = positive safety of pilots; CC = curriculum compliance; FCIL = faculty capable to implement law; PIPPL = participated in the implementation process of law; DTC = degree type conferred; BA = bridge agreement.

### Research Question 2

What are the unintended consequences in enrollment, prolonged graduation rate, and student retention rate? The data collected in the sample included information examined in the survey instrument that formed a theme, pattern, and or a discrepancy.



This question was designed to determine if a connection between the external factors and characteristics of change and if there were any unintended consequences, such as an increase or decrease in employment, prolonged graduation rates, and student retention rate in higher education institutions as followed by Fullan's (2007) Implementation Framework. The survey data collected from questions 4, 9, 14, 15, 16, 24, 28, and 29 were input into SPSS and a Pearson's Correlation analysis was performed to determine the strength and direction of the relationship between the variables (Cronk, 2010). Using Pearson's product-moment correlation coefficient, Table 8, the study reported a positive relationship between the following variables used to answer research question 2:

There were no significant strong relationships from unintended consequences from the implementation of Public Law 111-216 and an increase or decrease in employment, prolonged graduation rates, and the student retention rate in higher education institutions.

However, there were three significant moderate positive relationships between the faculty and administrator's perception of unintended consequences of Public Law 111-216 involving the negative impact on professional pilots in the United States Aviation industry and the need to amend the hours a pilot must earn for the R-ATP  $r = .493$ ,  $p = .017$ ; the added cost of implementing the law  $r = .495$ ,  $p = .016$ . and of significant interest is the faculty and administrators do not believe fatal aviation accidents will decrease as a result of the implementation of

Public Law 111-216, and yet their flight department is reliant upon revenue from student's receiving loans from financial aid between 75 – 100%  $r = .457$ ,  $p = .028$ .

Table 8

*Correlations for Research Question 2*

		ALH	ACIL	SS	FAAD	0-24% SL	25-50% SL	50-74% SL	75-100% SL	LNIP
ACIL	r	0.116								
	p	0.597								
SS	r	-0.302	0.142							
	p	0.161	0.518							
FAAD	r	-0.203	0.062	0.353						
	p	0.352	0.779	0.099						
0-24% SL	r	-0.080	-.448*	-0.192	-.437*					
	p	0.716	0.032	0.380	0.037					
25-50% SL	r	0.301	0.290	-0.085	-0.188	-0.027				
	p	0.163	0.180	0.699	0.390	0.899				
50-74% SL	r	-0.298	0.318	-0.171	0.203	-0.165	-0.101			
	p	0.168	0.139	0.435	0.353	0.442	0.638			
75-100% SL	r	-0.041	-0.204	0.379	.457*	-.451*	-0.277	-0.119		
	p	0.852	0.351	0.075	0.028	0.027	0.190	0.579		
LNIP	r	.493*	.495*	-0.300	-0.110	-.450*	0.210	-0.117	-0.041	
	p	0.017	0.016	0.165	0.617	0.031	0.335	0.595	0.852	
LPIP	r	-.419*	-0.157	0.408	-0.049	0.259	-0.036	0.189	-0.026	-.524*
	p	0.046	0.474	0.053	0.823	0.233	0.871	0.388	0.906	0.01

\*. Correlation is significant at the 0.05 level (2-tailed).

Note. ALH = amended law hours; ACIL = additional cost to implement law; SS = student success; FAAD = fatal aviation accident decrease; 0-24%SL = 0-24% student loans; 25-49%SL = 25-49% student loans; 50-74%SL = 50-74% student loans; 75-100%SL = 75-100% student loans; LNIP = law has negative impact on pilots; LPIP = law has a positive impact on pilots.

Table 9

*Descriptive Statistics for Hypothesis Testing*

	<i>Mean</i>	<i>Std. Deviation</i>	<i>N</i>
Satisfied with the implementation process of Law?	1.22	0.422	23
The curriculum is in compliance with Law?	1.13	0.344	23

Table 10

*Correlations for Hypothesis Testing*

		<i>SIPL</i>	<i>CCL</i>
SIPL	Pearson Correlation	1	.735**
	Sig. (2-tailed)		0.000
	N	23	23
CCL	Pearson Correlation	.735**	1
	Sig. (2-tailed)	0.000	
	N	23	23

\*\* . Correlation is significant at the 0.01 level (2-tailed).

*Note.* SIPL = satisfied with implementation process of law; CCL = curriculum in compliance with the law.

## Hypothesis Results

Both Tables 9 and 10 display data collected and analyzed to test the hypothesis.

A Person Correlation Coefficient two-tailed analysis (Table 10) was performed to test the hypothesis as follows:

H1: The impact of Public Law 111 – 216 has created programmatic changes in higher education professional flight programs.

H0: The impact of Public Law 111-216 has not created programmatic changes in higher education professional flight programs.

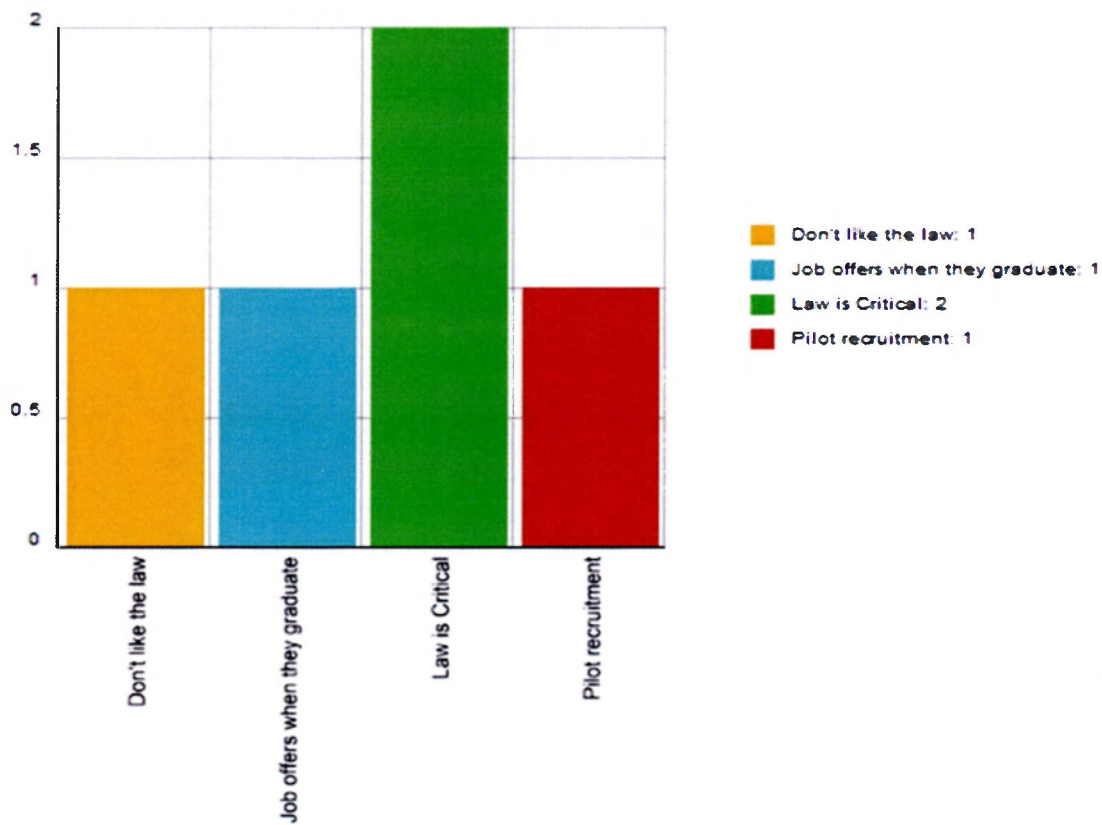
There is a significant strong positive relationship between respondents satisfied with the implementation of Public Law 111-216 ( $M = 1.22$ ,  $SD .422$ ),  $r = .735$ ,  $p = .001$ . There was also a significant strong positive relationship between respondent's perception of the curriculum is in compliance with Public Law 111-216 ( $M = 1.13$ ,  $SD .344$ ),  $r = .735$ ,  $p = .001$ . Thus, the null hypothesis is rejected.

Table 11 displays the results of the qualitative themes from the survey question's 30 and 31. The data was analyzed in HyperRESEARCH 4.0.2 and the themes were extracted. The themes identified the perceptions of the respondents and show that respondent is encouraged by Public Law 111-216 due to the benefits the law provides higher education flight departments. Specifically, the institutions are benefiting from the production of new Certified Flight Instructors (CFI) after they graduate. However, there seems to be a belief that the United States Airline market is going to experience a CFI shortage and there will be no one to train new student pilots. One theme was pilots are going to have a job after they graduate—just not the job they wanted—flying for the

Regional Airline. Instead, they will be working as a CFI. Additional themes emerged such as, respondents don't like the law, the law is critical, and pilot recruitment.

Table 11

*Themes*



Summary

Chapter 4 reported the results of the quantitative and qualitative data collected in this research study. Two research questions were answered with descriptive frequency statistics and all three research questions were analyzed with a Pearson Correlation Coefficient. General demographic information was analyzed with descriptive frequency

analysis. Chapter 5 discusses the research study findings, conclusions, and makes a recommendation or future research.

## CHAPTER 5

### Discussion

#### Interpretation of Results

Fullan (2015) theorizes that without the proper implementation approach from the middle, higher education will not be equipped to analyze how the law will affect the learning outcomes of the students. Given the findings of this study, there are eight significant takeaways. First, it is perplexing that most if not all faculty and administrators were not informed in the policy implementation process of federal legislation. Second, the implementation of Public Law 111-216 has created considerable additional cost to the students enrolled in a professional pilot program. Third, there is an additional opportunity for flight training benefiting the flight school. Fourth, respondents report overwhelmingly there is no decrease in fatal aviation accidents as a result of implementing Public Law 111-216. Fifth, there is a significant need to reduce the number of hours currently required for a professional pilot to become qualified to obtain an R-ATP certificate. Sixth, there is a negative impact on the graduate professional pilot in the aviation community. Seven, respondents believe the aviation flight program receives financial aid revenue from students taking out loans and grants to fund their education between 75-100%. Finally, there is a paradox of responses among the stakeholders surveyed across multiple questions.

I examined the data concerning the respondent's perception of Public Law 111-216, and if it would have a negative effect on the student professional pilots in the United

States, they responded “probably yes” at around 61%. One particular unintended consequence is a financial issue. Do the institutions of higher education have the financial and human resource ability to implement the new *legislation* effectively? Based on the data analyzed in this survey, it would appear that higher education’s institutions can implement the policy and the financial ability to drive revenue through financial aid, but the data indicates that only a few respondents are aware of the implementation process for federal delegated policy concerning higher education.

A closer look at the seven take-away’s mentioned above are provided as follows:

First, it is perplexing that most if not all faculty and administrators are not informed in the policy implementation process of federal legislation. The respondents surveyed were identified as the higher education institution person of contact for the AABI and non-AABI accreditation. It is quite a paradox that persons’ responsible for implementing Public Law 111-216 were unaware of the implementation process for federal policy when it directly affects their department. Evidence of Fullan’s (2015) theory referencing local characteristics was established, in this study, with over one-third of the respondent employed as the Department Chair; another thirty percent were Faculty; thirty percent were Program Administrators, and more than four percent were identified as other. Over half of the respondents reported not participating in the implementation of Public Law 111-216. Respondent reported over half believe their institution was involved in the Law-Making Process; almost three-fourths believe their institution had the Capacity to Implement Public Law 111-216, and a very high majority agree their institutions had Fully Implemented Public Law 111-216.



Meanwhile, more than half of the respondents indicated their institutions did not seek advice from another institution on how to implement Public Law 111-216. So, simple math would tell us that if fifty percent reported participating in the implementation of Public Law 111-216, then the other half of the institutions did not participate in the implementation. And if a very high majority believe their institution did fully implement Public Law 111-216, then what evidence exists to confirm this very high majority response? Maybe, at the time of the implementation, the respondents believed only fifty percent participated, but now that number had grown over the six years since its required implementation.

Second, the implementation of Public Law 111-216 has created considerable additional cost to the students enrolled in a professional pilot program. Before the creation of Public Law 111-216, a professional flight student only needed 250 hours of total flight time to become eligible for a commercial pilot certificate, which was the minimum requirement to fly for a FAR 121 Airline Certificate Holder. After Public Law 111-216 was signed into law four-year colleges and universities responded by raising their tuition from \$30,000 a year to more than \$100,000 over four years (Costowl.com, 2014).

A qualitative opinion was reported in research question 31 which asked the respondent to comment on the following: Please indicate how you feel about the impact of Public Law 111-216? The response was, "I believe that 111-216 has not directly increased aviation safety in the United States and has caused unnecessary financial stress on companies and pilots." Thus, establishing a link between Characteristics of change and External factors identified by Fullan (2007).

Third, there is an additional opportunity for flight training benefiting the flight school. The survey instrument used in this study reports three respondent who commented on the research question's 30 and 31 respectively. Survey question 30 asked the following: Please indicate any additional comments you may have regarding Public Law 111-216 and its effects on collegiate flight school implementation. A summation of responses is: "Because hiring is strong, the law is critical to keep flight instructors." The respondent continues to write, "If the 1000 hour [SIC] rule went away, I believe we would lose 100% of our flight instructors immediately;" "lowering the R-ATP time will help those who have the hours; but it hurts an institution's ability to retain CFIs to train future pilots."

Survey question 31 asked the following: Please indicate how you feel about the impact of Public Law 111-216? The third respondent writes, "it has been a blessing as it does at least require our students/graduates to be flight instructors until they reach 1000 hours." The respondent continues to say, "Without this, we'd likely have no instructors to keep the pipeline going."

The overall comments in the survey indicate that Public Law 111-216 may have some negative impact on the flight students, but the new law is good for higher education flight departments---because it continues to provide a steady stream of CFI's---allowing the flight department to continue teaching new student pilots. This may be fine from a capitalistic approach, but from an ethical approach, it would appear higher education is doing a disservice to their graduate professional pilots. Given the data from this study, and Fullan's Factors Affecting Implementation Framework (Figure 1) applies to all

factors affecting implementation. Characteristics of change identifies a need (retaining CFI's to train other students); local characteristics identify the President/Principal and the Professor/Teacher (desire to increase enrollment, revenue, and professional pilots) through the benefit of external factors (government) delegated policy implementation with unintended consequences by not implementing from the middle and utilizing a change agent to have the needs of the polis heard.

Fourth, respondents reported there is no decrease in fatal aviation accidents as a result of implementing Public Law 111-216. The survey reported the faculty and administrators do not believe fatal aviation accidents will decrease as a result of the implementation of Public Law 111-216. Rich qualitative data was reported by respondents in their responses to survey questions 30 and 31.

Survey question 30 asked the following: Please indicate any additional comments you may have regarding Public Law 111-216 and its effects on collegiate flight school implementation. One respondent wrote, "PL 111-216 was a kneejerk reaction to a terrible accident. The amount of flight time experience of the crew did not play into the accident as much as the fatigue factors at play along with the poor oversight over the airline in removing a captain from flight status who had multiple red-flags."

Survey question 31 asked the following: Please indicate how you feel about the impact of Public Law 111-216? One respondent wrote:

I believe that 111-216 attempted to solve problems by creating requirements that were not researched and based in fact. I believe the rule should be amended to take the quality of flight experience into account. I believe [SIC] that 111-216 has not directly increased aviation safety in the United States and has caused unnecessary financial stress on companies and pilots.

Another respondent writes:

It was a reaction to a public failure of an airline and two pilots. It probably cured that problem (fatigue and lack of transparency of previous training problems) but there are many unperceived hazards that stem from the contorted system we have now. I am not sure what happens when recruitment, training or aging begins to fail due to unforeseen shortages.

Thus, given the respondent's written reactions and statistical findings in this study it is apparent that Public Law 111-216 needs further review if the intent is to prevent aviation accidents like that of Colgan flight 3407.

Fifth, there is a significant need to reduce the number of hours currently required for a professional pilot to become qualified to obtain an R-ATP certificate. Because the survey data analyzed indicated more than half of the respondents did not participate in the implementation of Public Law 111-216, flight departments are having to address a need identified under the characteristics of change by Fullan (2007), in order to be heard the flight departments will need to implement a change agent and come together to approach Congress with a request to reduce the required flight hours for an R-ATP pilot certificate.

Responses from the survey instrument in this study produced a pattern of responses and the theme in their writings:

Putting an artificial number on flight time required to be a right seat at a regional was not something the industry needed to do. However, given the current boom in pilot hiring, it has been a blessing as it does at least require our students/graduates to be flight instructors until they reach 1000 hours. Without this, we'd likely have no instructors to keep the pipeline going.

Another respondent wrote, "It was introduced [SIC] to appease families of victims and a general public generally ignorant of the skills etc. required for professional pilots."

A third respondent writes, “1000 or 1500 hours is pretty arbitrary, but airlines will not voluntarily keep higher standards when they all need pilots so badly.”

A fourth respondent wrote, “It was a reaction to a public failure of an airline and two pilots.”

A Fifth respondent wrote, “I believe that 111-216 attempted to solve problems by creating requirements that were not researched and based in fact. I believe the rule should be amended to take the quality of flight experience into account.”

A sixth respondent responded, “It has substantially exacerbated the pilot shortage.”

A seventh respondent writes, “Training and pilot quality should be paramount, not an arbitrary number of hours. The industry is hurting for pilots and this hourly requirement is keeping graduates from industry employment.”

A final respondent wrote, “I believe that professional airline pilots should have an aviation degree and an rATP [SIC] certificate, but that the hours required should be adjusted downward based on the content of the curriculum and the quality of the approved training.”

Sixth, there is a negative impact on the graduate professional pilot in the aviation community. Professional Pilots graduating with a four-year pilot degree are faced with the requirement of earning 1000 hours of total flight time to become eligible to earn an R-ATP certificate. This is an additional 750 hours of flight time required from the previous 250 hours required under FAR Part 61 and 121.

Seven, respondents believe the aviation flight program receives financial aid revenue from students taking out loans and grants to fund their education between 75-100%.

Finally, there is a paradox of responses among the stakeholders surveyed across multiple questions.

Fullan's theoretical framework also addresses the issue of the stakeholders and if they were given the opportunity to contribute input during the crafting of the policy. However, when the respondents were surveyed if they participated in the implementation of Public Law 111-216 over-half said, "NO." The factors affecting implementation framework by Fullan (2007) are used to examine the effects of the impact of Public Law 111-216 on higher education implementation such as: characteristics of change (need, clarity, complexity, and quality); local characteristics (district, community, principal, teacher); external factors (government and other agencies), and implementation (Figure 1).

#### Relationship to Prior Research

The literature review in chapter 2 explored the history and literature available on policy implementation in higher education. This study examines various empirical studies of policy implementation, with a focus on higher education. The literature presented two strong reoccurring themes of policy implementation the first being federalism and its modification by President Ronald Reagan in the 1980's to the "New-Federalism" and how the executive office of the United States government circumvented the 10th Amendment of the United States, by using a delegated approach, to policy implementation in higher education. The second resounding theme is that policy

implementation theory dating back to 1965 first began with (Pressman & Wildavsky, 1973). Pressman and Wildavsky were two theorists who based most of their theories on a study about economic development agency projects in Oakland, California. These projects were funded by the United States federal government in 1965 (1984). This was the very first time that research policy implementation attempted to link politics and economic analysis of policy implementation in an institutional analysis of public administration (Hjern & Hull, 1987). It became apparent that early theorists were attempting to establish theories to deal with the task of joining federal government policymaking and education. This was referred to as the three phases of research supported by the nomenclature in the literature of (Goggin 1990; Howlett & Ramesh 1995; Pal 2006). This study limited itself to the theoretical perspectives on policy implementation, organization, and governance, and how government agencies interact in higher education institutions in the implementation of federal policies affecting those institutions.

Some theorists believe that the empirical and theoretical assumptions were not a good fit and failed to gain approval as a policy delivery method among democratic societies leading to the creation of the bottom-up's approach designed to examine the political process of policy implementation from the ground up (Bardach 1977; Pressman & Wildavsky 1973; Sabatier & Mazmanian 1981). It was believed that public administrative officials interacting with street-level public officials who had the ear of societal interests would gain a closer insight into the needs of the policy education (Barrett & Fudge 1981; Elmore 1981; Kickert 1997; Klijn 1996). This led to a second-generation of researchers that attempted to develop a conceptual framework for both the

bottom-up and top-down approach which consisted of several theories of implementation authored (O'Toole, 1986; Palumbo & Calista, 1990; Sabatier, 1986).

The second-generation scholars left us with the list of variables and complex diagrams of casual chains from two perspectives (Exworthy & Powell, 2004; Linder & Peters, 1987; Sinclair, 2001). The present study expounds on the theory of Linder and Peters (1987) and their attempt to bring forth a more generalized approach with policy implementation and the instruments used to gather data for analysis (Linder & Peters, 1987, p. 459). However, this study used Fullan's (2015) theory requiring the implementation of policy to be done through the middle. This promotes accountability and agrees with Linder Peters (1987). The researcher drafted research question 1 and 17 to the accountability data of the respondent. Specifically, survey question 1 inquired as to the respondent job position and survey question 17 inquired as to the respondent's participation in the implementation process.

It was not until the third-generation of researchers developed a flexible framework in the latter part of the 20th century (Winter, 1990). Thus, leading us to the late 1980s when the process of policy implementation became influenced through the decentralization in public administration leading to the use of the third independent agencies such as public sector activities (municipal services or military supplies), use of governmental organizations (provide program delivery); and individual volunteers (Borins, 2006), and casting relationships in service delivery (Kettl, 2000; O'Toole, 2000; Pal, 2006).

I base my literature review on the history of policy implementation between the federal government and institutions of higher education. A brief history of the role the



federal government played in education is warranted and stems from the creation of the Department of Education in 1867. The Department of Education was initially designed to gather data on schools and teaching, with the intent to help the States develop their school systems (U.S. Department of Education, "Federal Role in Education," 2017). Specifically, I looked at Public Law 111 – 216 and its effects on the 10<sup>th</sup> and 14<sup>th</sup> Amendment of the United States Constitution and how the “New Federalism” (Hail, 2006) approach introduced by President Ronald Reagan, has created a vortex through the 10<sup>th</sup> Amendment and the 14<sup>th</sup> Amendment of the Constitution, allowing for delegated implementation of Public laws from the Executive Office of the President of the United States. However, President Reagan was only able to accomplish his “New Federalism” (Hail, 2006) approach, because of a Supreme Court decision in 1954 surrounding a landmark civil rights case entitled, *Brown V. Board of Education of Topeka*, decided that the cases before the court, “must be determined not on the basis of conditions existing when the Fourteenth Amendment was adopted, but in the light of the full development of public education and its present place in American life throughout the Nation” (p. 492-493).

*Brown v. Board of Education of Topeka* was a significant case because it overturned *Plessy v. Ferguson*, with the Supreme Court deciding that, “the "separate but equal" doctrine adopted in *Plessy v. Ferguson*, 163 U.S. 537, has no place in the field of public education” (“*Brown v. Board of Education of Topeka* (1).”, 1954, p. 495). When *Brown V. Board of Education of Topeka* was read in conjunction with the 14<sup>th</sup> Amendment of the U.S. Constitution, it was determined that the 14<sup>th</sup> Amendment “prohibits any state from denying any person within its jurisdiction the equal protection

of the laws” (U.S. Constitution), and it is this equal protection clause that applies “to any one, citizen or stranger residing within the state's boundaries” (U.S. Constitution). Thus, the birth of the delegated approach to policy implementation began with the Reagan Administration, shifting responsibility from federal level to state level of government (Conlon, 1988; Morgan & Benton, 1985), also known as “New Federalism” (Hail, 2006). Even after the Regan Administration had left Washington, D.C., the laws still exist, and Congress can enact legislation tied to federal funding and grant money to laws, designed to fund financial aid under Title IV of the Higher Education Act of 1965 (HEA).

#### Limitations of the Study

The study has several limitations. In terms of higher education, the sample is smaller than if a larger population was sampled. This is due primarily to the nature of the study that attempted to sample the faculty and administrators responsible for the implementation of policy into a specialized academic program, not offered at all higher education institutions. Thus, a smaller sample from the AABI is utilized to learn the perceptions of the actors involved in delegated policy implementation affecting the training of students to become professional pilots.

Additional limitations to this study are the response rate primarily due to the email software sending the surveys received bounce backs due to respondent’s computer perceiving the email as spam. This survey was quantitative with only two open-ended questions. A qualitative approach would provide richer data., but the goal of this study was to provide an overall understanding of the effectiveness of policy implementation.

## Implications for Future Research

Recommendations for future research were derived from the findings of this study. The results reflect data gathered from approximately 25% of the Nations higher education institutions faculty and administrators who currently have enrolled both professional pilots and aviation management majors. The surveys were distributed to members of the AABI for both accredited and non-accredited institutions of higher education. Faculty and administrators who did not return a survey from both accredited and non-accredited institutions may not reflect the majority of aviation programs of non-accredited AABI institutions of higher education. Future research is recommended in the study of non-accredited AABI institutions of higher education to further replicate this study with a more inclusive sample.

I would also recommend that future researchers wishing to investigate the effects on collegiate, professional pilot graduates, employed in the aviation field since graduating in 2017 six years post the effect of Public Law 111-216, went into effect, be conducted. This study concentrated on the actors responsible for implementation of Public Law 111-216 within higher education institutions and correlation of data from professional pilots with the data from the faculty and administrators of higher education institutions would serve to better understand the overall benefit of or disdain for Public Law 111-216 on professional pilots.

This study was quantitative, which allowed for the collection of rich data, and in this data, it was discovered that faculty who completed the survey were aware of Public Law 111-216 and its process of implementation. However, the data that was analyzed identified the majority of the respondents were Department Chairmen, who participated

in the implementation process, but they did not know if any additional cost for implementation was incurred. If the actors who implemented the law had followed Fullan's (2015) policy implementation theory, they would have implemented from the middle and would be better informed as to the cost of implementation.

#### Implications for Future Practice

I would recommend that further research is conducted in the use of policy implementation method and that higher education institutions desirous of implementing federal delegated policy, develop a policy implementation committee who would consider implementing from the middle and follow the lead of Michael Fullan (2015) and his work on policy implementation in higher education.

Finally, I would recommend that research be conducted on existing higher education institutions that receive Title IV financial aid student loans for students they enroll in aviation courses and if the institution is indeed in compliance with the implementation of federal policy especially, if it is a requirement to maintain Title IV benefits for the institution and a revenue source for the aviation department.

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## APPENDIX A

## IRB Approval Memo

**MEMO**

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Institutional Review Board  
Federal Wide Assurance: FWA00009066

Date: January 16, 2019

To: Andrew Michael

CC: Dr. Stephen Kotok  
Dr. Rene Parmar  
Dr. Mary Beth Schaefer

Dr. Sandra Reznik  
Acting Chair, Institutional Review Board  
Tel 718-990-2634  
[rezniks@stjohns.edu](mailto:rezniks@stjohns.edu)

Dr. Marie Nitopi  
IRB Coordinator  
Tel 718-990-1440  
[nitopim@stjohns.edu](mailto:nitopim@stjohns.edu)

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**Protocol # 1218-202**

**Protocol Title: Airline Safety and Federal Aviation Administration Extension Act of 2010: Now Policy Theory and Implementation Applies to Professional Pilot Flight Programs in Higher Education**

Please be advised that your human subject protocol has been reviewed by the IRB and is considered approved/exempt. You are free to begin your project.

Since the proposal is exempt, no further follow-up by the IRB is required. Please notify the IRB of **any** deviation from your proposal since any change may require IRB review and approval.

Best wishes for successful pursuit of this research.

**\*\*It is imperative that you keep this on file where it can easily be accessed. You will need to provide copies of this document when involved in further correspondence with the IRB. The IRB will provide you with an additional copy of this document only in the case of an emergency.\*\***

## APPENDIX B

## Survey



## Introduction

*Intro.* Welcome,

My name is Andrew Michael and I am a doctoral candidate in the Department of Education at St. John's University in Queens, NY.

As part of the requirements to fulfill the degree of Doctor of Education, a dissertation is required and involves original research. This study is used to collect the original research and has been submitted to and approved by the St. John University Institutional Review Board (IRB) Committee as Exempt and meets the requirements of exemption and posing no harm to human or animal in any way. Projects that involve humans as research participants should be submitted for review and approval by the University's Institutional Review Board (IRB). Complete information regarding the University's policies and procedures on the use of humans as subjects can be obtained from the IRB Committee at St. John's University, 8000 Utopia Parkway, Queens, NY.

Your participation in this survey is very important and will help to understand AIRLINE SAFETY AND FEDERAL AVIATION ADMINISTRATION EXTENSION ACT OF 2010: HOW POLICY THEORY AND IMPLEMENTATION APPLIES TO PROFESSIONAL PILOT FLIGHT PROGRAMS IN HIGHER EDUCATION. I would greatly appreciate your assistance by completing this short survey.

Should you decide to participate in this survey, you will be presented with information relevant to the study topic and asked to answer some questions about it. Please be assured that your responses will be kept completely confidential.

The study should take you about 5 minutes to complete. Your participation in this research is voluntary. You have the right to withdraw at any point during the study, for any reason, and without any prejudice. If you would like to contact the Principal Investigator in the study to discuss this research, please e-mail Andrew Michael at [andrew.michael16@stjohns.edu](mailto:andrew.michael16@stjohns.edu) or by phone at 631-912-5211. You may also contact my mentor Dr. Stephen Kotok, Assistant Professor, St. John's University, Queens, NY at [kotoks@stjohns.edu](mailto:kotoks@stjohns.edu) or by phone at 718-990-2654.

**Airline Safety and Federal Aviation Administration Extension Act of 2010**

**Q1. Please identify your position at your institution.**

- Department Chair
- Dean
- Faculty
- Program Administrator
- Other

**Q2.**

**What is your institutions flight training fleet size?**

- 1-5
- 6-10
- 11-15
- 16-20
- 21-25
- 26-30
- 31-35
- 36-40
- 41-45
- More than 45

**Q3. How many students are currently in your flight department?**

- 1-50
- 51-100
- 101-150
- 151-200
- 201-250
- More than 250

**Q4. Do you believe section 217, of Public Law 111-216 will create additional opportunities for higher education aviation flight training programs?**

- Yes
- Unsure
- No

**Q5. To what extent do you agree that Higher Education Institutions offering professional pilot programs were involved in the lawmaking process of Public Law 111-216?**

- Strongly agree
- Somewhat agree
- Somewhat disagree
- Strongly disagree

**Q6. Does your institution have the capacity to implement Public Law 111-216?**

- Yes
- Somewhat
- No

**Q7. Has your institution fully implemented Public Law 111-216?**

- Yes
- Unsure
- No

**Q8. Are you satisfied with the implementation process of Public Law 111-216 at your institution?**

- Yes
- Unsure
- No



**Q9. Do you believe that Public Law 111-216 should be amended to reduce the number of hours required of a professional pilot student to achieve a Restricted ATP certificate?**

- Yes
- Maybe
- No

**Q10. Do you believe the total quantity of all hours a pilot has flown is more important than the quality of hours a professional pilot has flown prior to the issuance of a Restricted ATP certificate? (e.g. a pilot flies 1000 hours in a twin-engine propeller airplane in good weather or a pilot flies 1000 hours in a twin jet airplane in good weather)**

- Yes
- Maybe
- No

**Q11. To what extent do you believe Public Law 111-216 has had a positive effect on the safety of professional pilots graduating from AABI accredited higher education institutions?**

- Extremely Positive
- Somewhat Positive
- About the same
- Somewhat Negative
- Extremely Negative

**Q12. Do you believe the curriculum is in compliance with the outcomes prescribed by Public Law 111-216?**

- Yes
- Unsure
- No

Q13. Do you believe the faculty is capable of implementing the policy described by Public Law 111-216?

- Yes
- Unsure
- No

Q14. Has your institution incurred additional costs with the implementation of Public Law 111-216?

- Yes
- Maybe
- No

Q15. In your opinion do you believe Public Law 111-216 has had a positive or negative impact on student success as a professional pilot?

- Positive impact
- Negative impact

Q16. What percentage of your flight departments revenue is derived from financial aid through student loans or scholarships? The total should equal 100%

0-24%	0
25-49%	0
50-74%	0
75-100%	0
<b>Total</b>	<b>0</b>

Q17. Did you participate in the implementation of Public Law 111-216 at your institution?

- Yes
- No

**Q18. Did your institution seek advice from another institution on how to implement Public Law 111-216 into your professional pilot flight program?**

- Yes
- Unsure
- No

**Q19. Do you believe not-for-profit higher education institutions as opposed to for profit private higher education institutions are more or less able to implement Public Law 111-216 into their professional pilot flight program?**

- Yes
- Unsure
- No

**Q20. What type of higher education institution do you work at?**

- Not-For-Profit
- For-Profit
- State
- County
- Other

**Q21.**

**Is your institution part of a State network of Higher Education Institutions?**

- Yes
- No

**Q22. Is your institution part of a County Network of Higher Education Institutions?**

- Yes
- No

**Q23. Please select which four-year degree your institution confers upon professional pilot graduates?**

- BS Professional Pilot
- BA Professional Pilot
- BA Aviation Administration
- BA Aviation Management
- Dual Major BS Professional Pilot and BA Aviation Management

**Q24. Do you believe that fatal aviation accidents will decrease as a result of implementation of Public Law 111-216?**

- Yes
- Unsure
- No

**Q25. Has your institution of higher education adopted a bridge agreement with any airline, approved by the FAA, to accept your professional pilot graduates as First Officer candidates with less than 1,000 hours total time as required in Public Law 111-216?**

- Yes
- Unsure
- No

Q26. Please indicate how strongly you agree or disagree with the following statements?

	<input type="radio"/> Strongly agree	<input type="radio"/> Somewhat agree	<input type="radio"/> Neither agree nor disagree	<input type="radio"/> Somewhat disagree	<input type="radio"/> Strongly disagree
AABI Regional Accredited flight programs attract more students than non-accredited institutions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easier for a student to transfer credits from a regionally accredited AABI program at one institution to another regionally accredited AABI institution in a different state.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aviation employers prefer to hire graduates from an AABI accredited institution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q27. If your institution has not sought AABI accreditation, please indicate how strongly the following statement describes your beliefs?

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
Not enough information to decide.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The AABI accreditation is too costly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The administration will not approve us to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The department faculty do not believe the benefits support the cost or the time required to implement an AABI program.	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
Our program is too new and cannot seek accreditation at this time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The accreditation standards of AABI are too stringent and not appropriate for our institution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Q28. Do you believe that the overall effect of Public Law 111-216 will have a negative impact on professional pilots in the United States aviation industry?**

- Definitely yes
- Probably yes
- Probably not
- Definitely not

**Q29. Do you believe that the overall effect of Public Law 111-216 will have a positive impact on professional pilots in the United States aviation industry?**

- Yes
- Unsure
- No

**Q30.**

**Please indicate any additional comments you may have regarding Public Law 111-216 and its effects on collegiate flight school implementation.**

**Q31. Please indicate how you feel about the impact of Public Law 111-216?**

## APPENDIX C

## Introduction Letter

**Introduction**

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Vita

Name *Andrew Michael*

Date of Birth *March 15, 1968*

Current Occupation *Assistant Professor of Aviation,  
Farmingdale State University New York*

High School *Las Vegas High School*

Date Graduated *June, 1986*

Other Degrees And Certificates *Master of Business Administration, Dowling College,  
Oakdale  
Major: Aviation Management*

Date Graduated *May, 2015*

*Bachelor of Arts, Dowling College, Oakdale  
Major: Psychology*

Date Graduated *January, 2014*