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An Investigation into the Virtues of Airline Pilot Training

Arodi Justus

**Submitted in partial fulfillment of the requirements for the Degree of
Masters in Applied Philosophy and Ethics at Strathmore University, Kenya**



**School of Humanities and Social Sciences
Strathmore University
Nairobi, Kenya**

June, 2016

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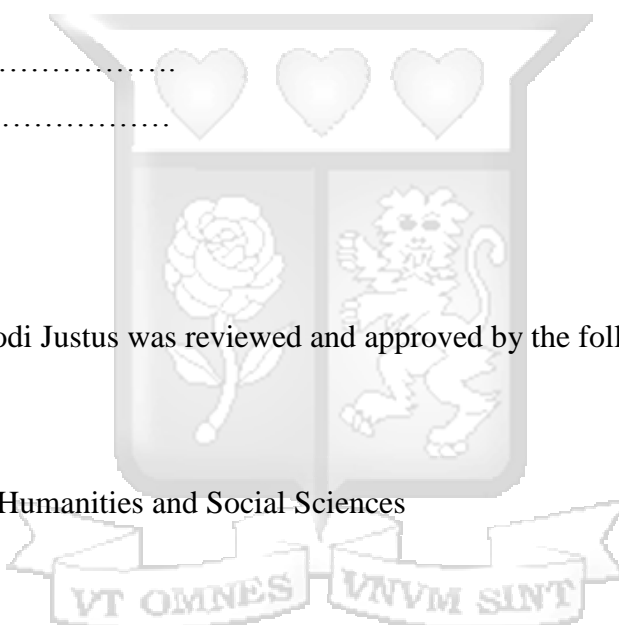
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ABSTRACT

That the world has become a global village can be seen in the exponential rise in air travel over the last few years; and this trend is expected to continue into the foreseeable future. Aviation industry has done a lot, especially in the realms of training and aircraft design to improve safety. The industry should not just maintain the current level of safety but improve it further. Besides enormous associated costs, accidents still occur. This study sought to show that ethics, particularly Aristotelian virtues in pilot training, can not only improve quality but also enhance efficiency and consequently minimize costs. The study set out to investigate if the people involved in pilot training consider virtues to be necessary for pilot training; which virtues they consider as most important; and how the virtues could be incorporated in a pilot training scheme. Descriptive survey design and naturalistic designs were used. Students and instructors/managers were randomly and purposively sampled using questionnaires and interview guides. Though scarce, the related literature was also reviewed. The findings of the literature review and questionnaires/interviews both confirmed that indeed virtues are needed in pilot training. All the cardinal virtues are preferred though in varying order of preference by the different categories of respondents. The study found that virtues can be incorporated in pilot training schemes through classroom training, through role models and reward and punishment for desirable and undesirable habits respectively, and through a dedicated code conspicuously displayed in training venues; but not through ruthless enforcement by punishment. The study recommended virtue training to be adopted by airlines as it enables pilots to easily observe regulations and comply with the tenets of Crew Resource Management among other benefits such as happiness and good working relationships which can enhance error management and greatly reduce accidents. Further research was recommended on how airlines and regulators can monitor compliance with virtues among pilots. Properly adopted, virtues can not only make training efficient but also help produce better pilots and consequently safer flight operations.



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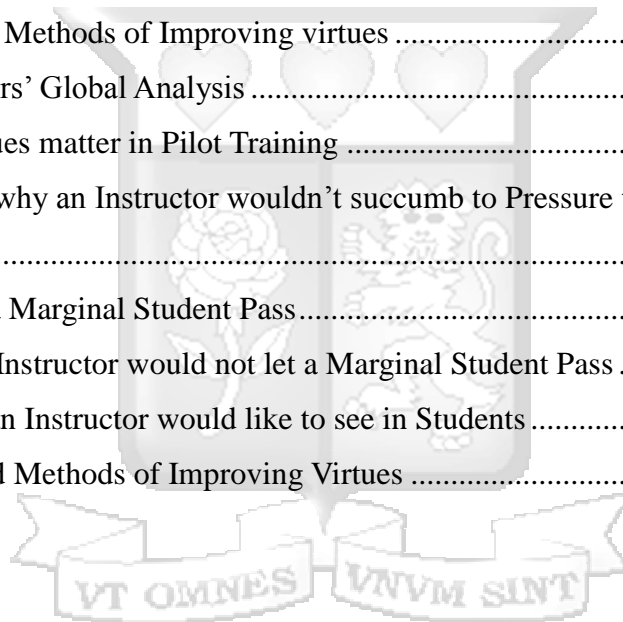
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LIST OF ABBREVIATIONS

ALPA	Airline Pilots Association
ASR	Air Safety Report
ATPL	Air Transport Pilot's License
CBT	Computer Based Training
CPL	Commercial Pilot's License
CRM	Crew Resource Management
CRMI	CRM Instructor
ETOPS	Extended Twin Engine Operations
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
FDMS	Flight Data Monitoring System
FTO	Flight Training Organization
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IOSA	IATA Operational Safety Audit
ISARPS	IATA Standards and Recommended Practices
IR	Instrument Rating
IRE	Instrument Rating Examiner
JAA	Joint Aviation Authorities
JAR	Joint Aviation Regulations
KCAA	Kenya Civil Aviation Authority
KCARs	Kenya Civil Aviation Requirements
KQ	Kenya Airways
SOPs	Standard Operating Procedures

ACKNOWLEDGEMENTS

First and foremost I would like to sincerely thank the Almighty God for His love, favor and care for this far, I could not have reached without Him!

My honest gratitude goes to my supervisor Dr. (Rev.) John Shaw who generously accorded me his time to unravel this enormous task. Without his guidance this work would have been incomplete for he went beyond the academic realm and participated in spiritual guidance and taught me humility as well. I would also like to recognize and appreciate the contribution of Dr. Catherine dean and Dr. Magdalene Dimba for their sincere and valuable comments.

I would like to acknowledge my indebtedness to my dear wife Dorothy Ogutu for her love and constant encouragement, and for her guidance in the research methods.

I would also like to sincerely thank members of Strathmore University School of Humanities and Social Sciences for their patience with me; particularly Mr. John Branya and Mr. Raymond Mbindyo, not forgetting my classmates. I would also acknowledge the assistance I obtained from KQ in granting me the permission needed to conduct research in their facilities.

Last but not least, I cannot forget the KQ employees and my colleagues who took their time to respond to my sometimes nagging questions. Thank you all guys!



CHAPTER ONE

INTRODUCTION

1.0 Background of the Study

Statistically, air transport is the safest means of transportation compared to the other modes such as road, sea and rail (Negroni, 2014). Although the airline industry has achieved a very low and stable accident rate, it continually works toward decreasing the accident rate. No industry is as rigorous or as committed (Taneja, 2003). However, some accidents still take place resulting in unwanted loss of lives and property. According to the 14th International Air Transport Association (IATA) Incident Review Meeting (IRM) bulletin dated December 31 2012, 60% - 80% of all air accidents are attributed to pilot error (i.e., human error) which can be a result of poor training or neglect in compliance with the standard operating procedures (SOPs). Pilot error is defined as the action or decision (including inaction or indecision) of the pilot that, if not caught or corrected, could contribute to the occurrence of an accident or incident (Farrd, 2016). The quality of pilots can only be improved through training. All IATA member airlines have in place a training program that meets the IATA Organizational Safety Audit (IOSA) and the requirements of their respective local regulator ("IATA Reference Manual", 2013). Kenya Airways (where the author of this document is employed) is a member of IATA and is compliant with IOSA and KCAARs. Kenya Civil Aviation Authority is the body charged with the task of regulating civil aviation in Kenya.

In 2013, IOSA registered operators such as KQ had an accident rate 2.5 times better than non-IOSA carriers (*Safety Report 2013*, 2014). KCAA conducts regular audits which the airline usually passes with ease. Nevertheless, the following problems—which could be eliminated if virtues were inculcated in pilot training—still occur: (1) KCAA, like all other regulators, lack capacity to enforce all regulations. Therefore, the operators should set up self-regulating systems. Ethics, particularly virtue, therefore, is imperative for instructors, trainees and managers in order to ensure all regulations in the training of pilots are followed since the regulators have no capacity to enforce them all. (2) Despite the compliance with the

ISARPS and KCARs, the FDMS, an equipment on board the aircraft similar to the Black Box that captures the flight parameters, whose Quick Access Recorder is downloaded for analysis weekly and has greatly contributed to the safety management systems (SMS) across the world fleet, continue to indicate that some unsafe events still occur, though on a reducing basis. (3) The management and pilots' unions have a memorandum of understanding that bars management from using data from the FDMS for punitive purposes (but permits its use for training) due to privacy violation and similar issues. Pilots are encouraged to embrace self-reporting by filing reports to management whenever unsafe events occur and such reports are reviewed by management and pilots' representatives in order to improve training. Self-reporting requires lots of courage as not many people are willing to self-incriminate. (4) Some of the IATA recommended practices include proper documentation of procedures for training for both instructors and students. Among the recommendations is that training procedures shall be standardized and documented such that all instructors follow prescribed training procedures as they instruct or check their students to ensure fairness. This, however, may not always be the case as will be mentioned below.

The regulators (ICAO, FAA, JAA, KCAA, etc.) continue to add new areas of training that must be conducted by airlines in the attempt to enhance safety. Besides airlines finding it quite burdensome to comply with ever increasing regulations due to costs, pilots, just like all human beings can only follow a given number of regulations, i.e., it is impossible to comply with too many rules. The airlines must cover the costs of training and of paying the pilots when they are on training. Indeed most airlines have stopped providing *ab-initio* training to their prospective pilots in order to reduce costs, leaving the prospective pilots with the burden of sourcing and funding their own *ab-initio* training. Some flight training organizations (FTOs) offer just the bare minimum training needed for compliance with the regulatory requirements due to costs resulting in half-baked products as opposed to the final objective for a professional pilot which is a safe, sustainable lifetime performance (European Cockpit Association, 2013).

Despite shedding some of the burden, training costs are still punitive for airlines. Efficiency in training can help reduce some of these costs. This study argues that virtues, which are an inherent dimension of human agency, can greatly enhance efficiency. To highlight this, the researcher used Kenya Airways as a case study. Training is done locally and internationally and is conducted mostly by KQ instructor pilots and other staff members competent in their respective fields. In some cases international instructors are sourced to cover areas requiring specialized skills which are in short supply locally.

Pilot training is continuous and consists of several layers (see Appendix IV). Consequently, the airline has employed a large number of instructors to make this training program possible.

Much of pilot training and testing is not measureable, i.e., the environment is fluid and as such no two situations are similar. The discretion of the instructor is often the measure and, therefore, compliance may become an issue given the large number of instructors and the different levels of training going on. It is also instructive to note that KQ, and indeed most airlines, do not have in place a dedicated code of ethics for pilot training, though some pieces are scattered in various airline documents. Even in the instances where guidelines were in place, strict compliance may be an issue. Some unscrupulous students may be tempted to persuade crew planners to schedule them with perceived forgiving or 'friendly' instructors to handle their training or checks. This could be a result of the fact that some instructors are either excessively lenient or harsh to some students and therefore may not follow the training syllabus with the required rigor, and so on and so forth. Or, conversely, the weak or unprepared students fearing reproach from strict instructors may use unorthodox tactics to avoid or embrace some instructors. This could be due to various reasons ranging from a relationship of friendship between some students and instructors, hostility due to one reason or another or even laziness/sloppiness on the part of the instructor or student. The consequent compromise on quality and hence safety cannot be gainsaid. This may result in students graduating with varying levels of competence. Also, some students who had met the entry requirements may

get discontinued at very advanced stages of training due to incompetence and the airline has to bear the costs of wasted training, which can be enormous in this industry e.g., Multiflight Training Center at Leeds Bradford International Airport requires 55,000 pounds excluding upkeep to train a student up to a frozen ATPL (Multiflight, 2016). Thereafter the student needs to convert to a jet operated by her airline of choice. An airline entry level jet such as a Boeing 737 NG type rating costs \$ 13,500 excluding transport and accommodation charges per pilot at Aerostar Training services (AeroStar Training Services, 2014). Further training is still needed to fully qualify for the right seat, bringing the total cost to approximately \$200, 000 per person (Pilot Career News, 2016).

Introduction of virtuous behavior in training can not only help alleviate some or all of the mentioned problems but can also secure a competent and happy crew as Aristotle says “he who lives in accordance with complete virtue is sufficiently equipped with extra goods, not for some chance period but throughout a complete life” (Aristotle, *Nicomachean Ethics* 110a10).

From the foregoing, it is clear that despite the adequacy of documentation covering training of pilots, despite the auditors’ findings that the paperwork is in order, the quality needed across the fleets may not be uniform due to some or all of the reasons mentioned above which are caused by the absence of virtue ethics in training.

1.0.1 Training Types and Styles

Below we take a look at some of the methods of instruction employed by instructors in different phases of training.

Ground based training

The ground based courses requiring classroom attendance are usually conducted by ground school trainers. Some classes are computer based and the instructor’s input is just to ensure the student has attended and a register of attendance marked. In such instances, the instructor has no way of ensuring that the student is following the course material. Instructors who do not

bother much with the students' punctuality and other cases of lapses of discipline are the most popular with the students. For the instructor conducted classroom training, instructors applying exhortation are more popular. Exhortation is a style of teaching whereby the teacher gives colorful examples to the students but does not confirm how much of the subject matter has been learnt by the student. Nestor's reply to Neoptolemus, the son of Achilles when asked "what practices a person should take up during his youth in order to win the highest respect", he replies that "a great number of excellent rules of life ... unfortunately, we do not know what these excellent rules of life were, since the content of the exhortation has not come down to us" (Corey, 2002, p. 219) aptly captures the weakness of exhortation.

Simulator based training

Flight simulators are used for training and checking pilots on maneuvers which would otherwise be too dangerous to practice in a real aeroplane and in real time. It has the advantage that different scenarios such as weather, emergencies, and so on, can be simulated at the push of a button. The downside is that they are expensive (though more forgiving than a real aircraft for training) and as such the time available must be used effectively. A training session is preceded by an hour of classroom briefing where the instructor outlines the exercises to be covered once the session begins. Here, because of time constraints, the instructor poses questions to the candidates to test their level of knowledge of the exercises to be covered. The simulator session begins thereafter and because virtually any scenario can be created by the instructor, many a time some instructors get carried away and create more scenarios than briefed and in rapid succession. Some students may find this confusing and thus unable to cope at times; the instructor needs a lot of restraint to conduct the exercises as briefed since the simulator affords her the capacity to "play god". A debrief session follows thereafter and at this stage the instructor points out the mistakes or errors made by the students. Due to the nature of simulator training, the constraints of time, and the need to ensure the student has correctly grasped the subject matter, refutation is the teaching method of choice. Refutation does not make instructors popular; it tends to make people angry more often than it makes them gentle: "you are well advised not to leave Athens and live abroad," says the just-refuted Meno to

Socrates, “for if you behaved like this as a foreigner in another country; you would most likely be arrested as a sorcerer” (Plato, *Meno* 80b). In fact, when the question comes up at Socrates’ trial why so many people are angry with him, Socrates cites just one thing: his practice of refutation! Indeed such instructors in KQ have earned a nickname *warlord* from the students.

Line training

Line training and checking is usually done in a real time operational environment on revenue flights carrying passengers and/or cargo. The margin of error allowed by the instructor to the student is very thin since on time performance including passenger safety and comfort take priority. Quick action by the instructor is often needed to remedy a situation. The instructors may at times get impatient with students who come unprepared. Due to time constraints, the need to ensure the student has understood the subject matter clearly, refutation is the preferred method.

Mentorship

In Greek mythology, Odysseus placed his son Telemachus under the care of Mentor when he left for the Trojan War. The name *Mentor* has been adopted in English as a term meaning someone who imparts wisdom to and shares knowledge with a less experienced colleague.

Once a student (Captain or First Officer) has successfully completed training, she is required to be paired with a senior (experienced) pilot (with more than 300 hours on type) until she has achieved one hundred hours flight time or more before being released to fly with any pilot. This is the mentorship stage and although the senior colleague is not necessarily an instructor, the freshly checked out pilot is expected to learn good habits through mentoring. Mentoring continues in normal line flights as junior first officers learn from their experienced captains.

1.1 Statement of the Problem

Aviation industry is heavily regulated. There are laws covering every aspect from SOPs, state laws, international laws etc., also, regulations cannot cover all conditions for its validity, hence new rules are needed to cover for emerging gaps. Like all other human beings, pilots cannot comply with too many regulations. Pilots, like most professionals are often confronted with

ethical dilemmas every day on and off the job. How much rest before flight is enough? Is she fit for duty? Does she log a maintenance snag and delay the flight? Is this route of flight which borders the edge of severe turbulence lawful and safe? Do we take additional fuel and leave behind passengers and bags? What shortcuts do we take in order to make an on time departure? In addition to this, discrimination and contempt for women and other hitches arise, such as not being given all the information needed to make a decision, or the required training in order to perform properly. Honesty, integrity, and morality play into all decisions (Hoppe, 2011). These and more issues arise during normal line operations. In training these same issues still obtain, however the threats posed are grave as their effects can result in very negative outcomes for obvious reasons. The instructor has additional ethical issues such as letting a marginal student pass, hurting a student's feeling by declaring her performance below par, feeling guilty if a student is eventually dismissed based on the instructor's report, etc.

Also, as Airbus' senior Director of Flight Training Policy, Captain Michael Varney mentioned: "bad instruction can be disastrous [...]. Pilots quizzed about their instructors frequently use adjectives such as 'aggressive, abusive, intimidating' with accusations that they 'leave the student guessing'. Varney also points out that 'firehosing' students with technical information is 'pointless but easy to do'" (Learmount, 2013, p.24). These remarks underscore the need for virtues in the process of training. Virtues such as kindness vs. "aggressive"; respectful vs. "abusive"; justice vs. "intimidating"; clarity of expression vs. "leave the student guessing"; and timeliness vs. "firehosing" will enhance the necessary yet elusive excellence in training (Lombardo, n.d.; Havard, 2013). Yet to date, there is no clear ethical code to guide them. This offers grounds for improvement.

This study proposes that introduction of virtues in training can help pilots internalize and observe regulations with ease besides helping resolve some of the ethical dilemmas mentioned as well as address problems caused by of lack of virtuous behavior by those involved in piloting.

1.2 Objectives of the Study

The research objectives are:

- 1) Identify whether or not the people involved in pilot training consider virtues to be necessary for a pilot at work.
- 2) Identify which virtues are considered by those involved in pilot training as necessary for a pilot at work.
- 3) Analyze how these virtues could be incorporated into a pilot training scheme.

1.3 Research Questions

This research will be guided by the following questions:

- 1) Do the people involved in pilot training consider that virtues are necessary for a pilot at work?
- 2) Which virtues do those involved in training of pilots consider to be necessary for a pilot at work?
- 3) How could these virtues be incorporated in a pilot training scheme?

1.4 Significance and Justification of the Study

KQ mission statement reads thus: “be the Pride of Africa, by inspiring our people and delighting our guests consistently” and its values are: “to meet the highest standards of safety in the workplace and operations.” From the mission and values statements, KQ management intention to improve the quality of its personnel is implicitly highlighted.

A professional can ruin her profession if she does something unethical or against her profession. So a professional needs to know about things that can ruin her profession beforehand so that she can refrain from doing such things (George, 2006). The professional therefore has to develop her character and by so doing, improve her quality both as a person and professional. For a professional to win the trust of others, she needs two things: “...character and competence” (Covey & Merrill, 2008, p. 30). Character includes such virtues

as integrity, motive and intent with people while competence includes capabilities, skills, results and track record. Our society is increasingly focusing on ethics and the character aspect of trust is fast becoming the price of entry in the new global economy.

The findings of this research brought out the virtues, that is, the moral qualities a professional ought to have to be a true professional, as Aquinas says "... it is on the basis of the end that one must ascertain the character of what is ordered to that end" (Aquinas, *ST I-II q. 1*). Secondly, the research also brought out what one needs to do for her to acquire these virtues, that is, character development. Lastly, the research sought to formulate a virtue based training scheme to guide the players in the training department such as managers, instructors and students. The implementation of such a scheme is expected to improve the quality of training and consequently the FDMS trigger events are expected to lessen besides providing the management of training with a workable tool for disciplinary purposes to be cited in case of blatant violation. Emphasis must however be made here that only virtues can motivate moral agents to carry out excellent deeds over and beyond rules. In other words, people of good character and virtue require no reminder of what rules are or what their duty is (Grier, 2006).

1.5 Scope and Delimitations

This study was of an academic nature and not an audit of KQ or any airline's pilot training department. It was limited to the pilot training organization where students, instructors and managers were interviewed. Also, other related departments such as Quality Assurance and Safety were roped in while focusing mainly on ethics (particularly virtues) and how it can improve training and consequently safety.

1.6 Limitations

This research was focusing in an area where scanty, if any, previous research has been done. Lives depend on the quality of pilots' decisions. In this respect, aviation shares the high stakes found in medicine and the military. Unlike those fields, however, the discussion of applied ethics in aviation has historically been limited ("Promote ethical behavior within the GA

community,” 2006). This assertion is reinforced by Dale Oderman on why aviation departments would be hesitant to fund ethics instruction programs “... because little has been published on the subject” and that most professors interviewed cited the lack of written materials “specifically dealing with ethics in the aviation industry” (Oderman, 2004, p. 68), and since then no significant literature has been written on this subject i.e., ethics (particularly virtues) in airline pilot training. Some available literature addresses other areas in aviation such as technical maintenance and customer care but not pilot training. It is therefore playing a pioneering role and the researcher faced challenges in the literature review. Further to that, the materials such as documentation from airlines needed for this study are of a sensitive nature and some have legal implications especially in the realms of confidentiality and culpability and this posed a serious challenge to the researcher. The researcher however, engaged senior airline managers and the supervisor and sought guidance on how to overcome this hurdle but was not entirely successful.

Moreover, the researcher is himself a pilot who is perpetually flying internationally and therefore faced difficulties finding time to go to the offices to conduct interviews – remember most interviewees were also pilots and were themselves flying hence availability was a major challenge. The researcher used some electronic questionnaires and telephone conversations to mitigate for this; however, time was still needed for face to face interviews and administration of questionnaires.

1.7 Operational Definitions of Terms

1. In this document, the human agent is described in the feminine pronoun. There is no particular reason for this and as such should not, in any way, be construed to mean gender bias.
2. The terms KQ, the company, the airline and the operator all refer to Kenya Airways in this document.
3. Human factors (or ergonomics) is the discipline concerned with optimizing the relationship between people and their activities through systemic application of the human sciences, integrated within the system engineering.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

When a pilot operates an aircraft, human lives are held in the balance. Therefore, a pilot has a moral responsibility to operate in the safest possible manner (FAA, 1991). The results of unethical behavior are always negative and sometimes catastrophic. Nevertheless, as mentioned above by Oderman, the industry has rued the lack of written materials specifically dealing with ethics in the aviation industry. This section reviews ethics documentation in KQ Operations Manuals; impact of CRM training, Aviation Safety Reporting programs, codes of ethics as well as philosophical considerations on human action and how they affect training and consequently quality of pilots. A theoretical framework was then formulated.

2.1 Operations Manuals

KQ operating procedures are in a document known as the Operations Manual. This manual has several parts with Part A covering the general procedures governing flight operations (“KQ Operations Manual Part A version 6 (Rev 0),” 2006). Pilot training matters are covered in Part D which specifies details of training to be given and how (“KQ Operations Manual Part D version 2 (Rev 2),” 2011). However, apart from the role profiles of the various players in the training organization and some other guidelines outlined in this manual, there is no specific document stating the codes of ethics to be observed by the pilot training organization. The Company Code of Business Conduct and Ethics manual focuses mainly on business conduct and is silent on operational ethics.

2.2 Crew Resource Management

Increasing technical reliability and safety of aircraft has left human factors crew training and flight management as the main areas in which significant advances in flight safety can be made (Smallwood, 2000).

Crew resource management can be traced to the early 1970s following a series of deadly accidents which researchers discovered were not caused by mechanical failure but by pilot/crew error. (FAA, n.d.) The aviation industry recognized that human error was the prevailing cause in aviation disasters. They embarked on a long, arduous and sometimes acrimonious trek to change behaviors and traditions to reduce the likelihood of repeat tragedies (“pubs_CRMmanual.pdf,” n.d.). A course known as Crew Resource Management (CRM) was born. This program was meant to incorporate human factors training among flight operations personnel such as pilots, flight attendants, flight dispatchers and so on. The aim was to sensitize them on matters like stress management, interpersonal relationships, and so on, at the work place which can be extremely stressful due to extreme climate, fatigue, distractions, etc., and incorporating its tenets in procedures, making the crew work better together and thereby reducing crew-based errors.

According to IATA statistics, aviation accidents have reduced considerably since the introduction of CRM. However, cases of lapses of CRM still arise considering that human error is still the leading single cause of accidents. From the earliest courses to the present, small subsets of pilots have rejected the concepts of CRM (Helmreich & Wilhelm, 1991). Helmreich and Wilhelm (1991) further say that any chief pilot can identify these individuals, who have come to be known by various names such as *Drongos* (The *Drongo* label comes from Australia. It is a small bird that flies around and defecates on the heads of unsuspecting passersby). This rejection can be attributed to lack of virtues, particularly obedience. These CRM failures are found in every airline and are known to their peers and to management (Helmreich, Merritt, & Wilhelm, 1999). Research done on several airlines found decay in CRM even with recurrent training (Helmreich & Taggart, 1995) and the reasons for the decay in attitudes are not immediately apparent, but one of the likely causes is a failure by evaluators such as line check airmen (pilot examiners) to reinforce its practice (Helmreich, Merritt, & Wilhelm, 1999). The researcher considers the approach to CRM training as rather utilitarian and does not focus on character development, hence the decay. KQ, like all other major

carriers, has made CRM mandatory and examinable by the check airmen as required by the KCAARs (Republic of Kenya, 2007).

Robert Helmreich, considered to be one of the founders of Crew Resource Management, developed an Error Management Model that is usable. Error avoidance can be actively practiced by following six tenets outlined by the airline industry: maintain a high level of proficiency, follow SOPs, minimize distractions, plan ahead, maintain situational awareness, and effectively use all resources (“pubs_CRMmanual.pdf,” n.d.). These tenets need to be observed by all the players without exception for a safe flight execution i.e., during training flights and normal line flights without trainees. From these tenets, we can see that CRM focuses on concrete actions that pilots need to make in order that the flight may be conducted safely; it does not focus on character development. That could be the reason some pilots have not completely embraced it. The researcher considers that these tenets fall within the ambit of virtue since they are all subsets of the cardinal virtues and therefore a virtuous pilot would observe them with ease.

2.3 Aviation Safety Reporting program

In the 1970s aviation experts concluded that most trend-setting and informative incidents were not being reported, and safety benefits passed on to the industry (LaMarr & Homan, 1999). This is because incidents usually result from errors of the crew who cannot be expected to voluntarily self-incriminate! LaMarr & Homan adds that pilots and airlines became safety minded because of self-serving reasons: pilots because of their own safety and airlines because of bad publicity and lawsuits resulting from accidents. The FAA introduced the ASRs but had to deal with the issue of trust by making voluntary reports non-punitive (FAA, 1995). The ASRs, through compromise and appeal to self-interest, does an excellent job of eliciting crucial information in this largely unethical society. However, many pilots would not file an ASR unless there is a chance of being caught and punished for non-compliance. Many pilots use the ASR as a get-out-of-jail card rather than as a genuine safety enhancement system, which is its intended purpose. The fact that the FAA compromised with pilots to encourage self-reporting

has not completely borne the intended fruit as most pilots only make reports when under jeopardy or when there is a chance of being caught and punished. This means that character training is needed. Virtuous pilots would file ASRs without needing any external influence.

2.4 Codes of Ethics

Training is one of the customary ways of reducing errors by instilling discipline that make rule breaking and disregard for the SOPs less likely. Punishment is another traditional method used to control pilot mistakes, implying that safety could be improved by more ruthless enforcement of procedures. This has not always worked in the past (Smallwood, 2000). Nevertheless, pilots are professionals and as such should assume responsibility for their actions and be held accountable.

Some aviation organizations have codes of ethics in place for guidance, for example, ALPA code (ALPA, 1977) (see Appendix IX). This code is useful as a guideline in many respects to pilots; however, ALPA, being the world umbrella body of pilots' associations, cannot force airlines to adopt the code and as such it is not enforceable. Many pilots are not even aware of its existence. Also, ALPA doubles up as a trade union and cannot support sanctions against its members by employers.

2.5 Ethical Philosophical Considerations

This section seeks to analyze what differentiates one ethical-philosophical system from another. It will also analyze human action and its co-relation with values, principles and virtues.

2.5.1 Schools of Ethics

In Western philosophy there are three main schools of ethics. The first school, classical virtue ethics, based on the work of Aristotle, holds that the virtues (such as prudence, justice, courage, and temperance) are dispositions to act in ways that benefit both the person possessing them and that person's society (Aristotle, *Nicomachean Ethics*). The second, deontology, defended particularly by Kant, makes the concept of duty central to morality: humans are bound, from

knowledge of their duty as rational beings, to obey the categorical imperative to respect other rational beings. Thirdly, utilitarianism asserts that the guiding principle of conduct should be the greatest happiness or benefit of the greatest number. “Utility therefore consists in the ability of an action to produce pleasure” (Gichure, 1997, p. 178). In this school, an action is deemed morally good if it maximizes happiness which is determined by weighing the positive and negative consequences of that action.

The three schools of ethics provide different approaches to be considered when formulating a document on ethics for pilot training or any organization. The Aristotelian school, with its focus on virtues, seems most appropriate in developing a pilot training scheme seeking to achieve excellence. This is why:

Virtue ethics neither looks to rules nor to consequences. It instead considers internal motivations directed at realizing the *telos*, or end, of a “good” person, and it is in this that consensus can be found among the religious and non-religious worlds, thus bridging the existing moral chasm (Smith, 2014). Both sides would easily agree on the list of 52 virtues given by the Virtue Project (“A List of 52 Virtues,” 2007). Theists add faith, hope and charity to that list while the non-religious may disregard them, a negligible variance. The differences that the many belief systems bring to this are basically those of terminology and emphasis. It is an ethical system that is neutral about belief systems and can therefore be accepted by all belief systems. This reason has seen a revived interest in virtue ethics in modern times (MacIntyre, 1981).

Secondly, supplying an internal motivation is a better way of obtaining a good outcome, whether of act or consequence. It is widely agreed that intrinsic motivation is more effective than extrinsic motivation (intrinsic motivation refers to doing something because it is inherently interesting or enjoyable, and extrinsic motivation refers to doing something because it leads to a separable outcome (Ryan & Deci, 2000)).

Thirdly, by supplying intrinsic principles, rather than rules, virtue ethics is adaptable to a wide range of situations. No law can cover all the conditions for its validity, as life is full of extraordinary circumstances that legislation cannot consider beforehand. A rules based system therefore, can only adapt to new circumstances by adding new rules, which becomes intolerable in the long run (Michael, 2006).

Fourthly, virtue ethics supplies a means of internalizing and integrating rules into a person's behavior, making them more effective. It is therefore a powerful way of reinforcing the rules and regulations of society by translating them into intrinsic motivation and thus making them more effective. Finally, virtue ethics adopts a middle ground. Deontology and utilitarianism are not acceptable to both sides of the divide and hence cannot find a common ground on moral issues (Smith, 2014).

Critics of virtue ethics argue that it offers no solution to specific moral dilemmas i.e., it focuses on the individual (Louden, 1984) . Secondly, not everyone has equal opportunity to develop morally and therefore we should not judge them the same. Thirdly, it asserts that there are character traits, however Gilbert Harman and other psychologists believe these to be an illusion (Harman, 1999). Fourthly, due to cultural relativism whose virtues do we consider the best? Fifth, the Golden mean cannot be universally applied to all people in all situations e.g. it may be courageous of a soldier to fight an equally matched opponent but foolhardy to fight a far greater one etc. Such critics are epistemologically uninformed and, as it were, methodologically deficient as they fail to recognize the fundamental intention of an ethical epistemology that is in fact anthropologically grounded (Rhonheimer, 2011).

In short, virtue ethics is capable of supplying an intrinsic motivation that is acceptable to both the non-religious and religious worlds. We live in an overwhelmingly rules dominated world. Virtue ethics offers a way of internalizing and then integrating rules such that they become intrinsically motivating. It is a promising field for finding common ground between the

religious and non-religious worlds, to make rules and regulations more effective, and to provide a source of meaning for the non-religious besides offering a middle ground for both extremes of ethics of utility and duty.

2.5.2 Human Action and Professionalism

Motivation is the ultimate force that causes one to take action. It does not only initiate and drive goal-oriented behavior, but sustains it. Aristotle said all human actions have one or more of these seven causes: chance, nature, compulsion, habit, reason, passion, and desire (Aristotle, *Rhetoric I*, 10. 1369a). Let us take a look in detail at some of these causes and how they affect character formation and hence professionalism.

Values

Value or *valere* in Latin means ‘to be worth’. Ethical values refer to human values or moral excellence and are inseparably related to goods. This study sought to highlight the values needed for excellence in the training of pilots. Aristotle defined ‘good’ as an aim that can motivate an action (Aristotle, *Nicomachean Ethics I*, 1, 1094a1-2). A good can be seen as a desirable thing—a value—and hence a motive for acting. Human goods, also known as moral goods, such as friendship, are useful for they perfect the agent *qua* human being while useful or apparent goods, such as money, are desirable and others still, like a chocolate, for the pleasure they bring but do not improve people as human beings. Of the human goods, some are internal to the person while others are external to the person. Some basic internal goods are: life or being alive, having a family, friendship, being able to work and play, experience of beauty, knowledge, i.e., practical and theoretical kinds, integrity, and religion. The basic goods external to the person are: freedom, dignity, and pain—instrumentally in the sense that it signals to us about a state of bad health or looming danger (Gomez-Lobo, 2002), for example, when we step on hot embers of coal, pain signals us to jump before the foot is burnt! Human action is therefore directed to the pursuit of ‘good’ and avoidance of the ‘bad’.

Human action (actions governed by a reasoned consideration of what is good) should be assessed by how it affects the goods at hand “...for the object of the will is the object of the good” (Aquinas, *ST I – II*, q. 18-21). Practical rationality, which is the intellectual ability of a person to direct conduct towards the most suitable target by using the right means, is needed to evaluate an action’s effectiveness for obtaining a given goal (Mele, 2009). Also, we cannot achieve human goods in isolation from others. The guideline for impartiality, also known as “The Golden Rule”, which is a global (found in all major religious and wisdom traditions of the world) ethical principle, presents a way of living in harmony with others. It can be formulated thus: treat others only as you would like to be treated (Anderson, 2014).

Principles

Principles are the self-evident truths or axioms that are taken for granted and act as starting points for deducing any particular norms. Any ethical theory, therefore, includes one or more axioms as a beginning to give guidance for evaluation of alternatives and discernment of the correct course of action. Axioms are also useful in establishing priorities and discovering the proper relationship between means and ends. Having mentioned the basic goods above, we need principles and norms to guide us on the ‘qualified’ or ‘unqualified’ reflection, i.e., taking account of the circumstances surrounding the notion in the real world or in isolation. For example, freedom is a basic good but must be used responsibly, e.g., a student pilot has freedom to do whatever she likes during her free time but partying all night instead of preparing for the next morning’s training flight will obviously not be good for her. If she is unable to use practical reason to make use of her free time to prepare for the mentioned training flight, then a regulation (norm) is needed, for instance: students must come prepared for training flights. This regulation will guide her use of freedom. “The actions of pilots ... are tightly governed by tight managerial and regulatory controls” (Reason, 2001, p.61). James Reason further adds that such administrative controls form a major part of defenses in a hazardous system and are of two main kinds: external controls made up of rules, regulations, and procedures that closely prescribe what actions may be performed and how (such paper based controls embody the system’s collective wisdom on how the work should be done). Secondly, internal controls

derived from the knowledge and principles acquired through training and experience. The external controls provide guidance for those with weak virtues and for this reason the study proposed that a training scheme that fosters the development of solid virtues be developed.

Virtues

Virtue, from Latin *virtus* (meaning strength), provide a better perception of ethical values and buttress the will for good behavior (Mele, 2009). Virtues are attained by repetition of good actions, thus, understanding the need for good actions is a value but that alone does not make one virtuous except by practicing the good actions. According to classical virtue ethics—which this study adopted—moral virtue is the unfolding and perfection of human nature in the fullest sense (Rhonheimer, 2011). This unfolding is essentially the work of reason and the reason-informed will. The virtuous, Aristotle says, live *kata logon* (according to reason). Virtue therefore helps to identify the goods in each situation, and to apply the principles and norms correctly by enabling moral reasoning and decision-making; it informs interior strength and good behavior. This study sought to underpin virtue as the necessary foundation on which excellence in training should be built.

Character and Professionalism

A good professional is one who possesses the attributes good for the profession. The terms ‘good’ and ‘bad’ are always attributive and not predicative adjectives: predications of ‘good’ and ‘bad’ of objects or actions are not predications of ‘extra’ properties of some objects or some actions, but of ‘directedness’ or ‘order’ of some object or action to some ‘end’ or purpose extrinsic to it, i.e., human flourishing (Geach, 1956). As such, the professional’s character determines her technical competence. In 1994, Boeing published safety data showing a clear relationship between a country’s plane crashes and its national culture (character) with respect to power distance (Gladwell, 2008). Power distance refers to the seniority gradient in the cockpit. E.g., a situation where a very senior and experienced captain is paired with a very junior and inexperienced first officer can be referred to as a “high power distance” cockpit, and *vice versa*. Gladwell (2008) cited as an example, the crash of Korean Air Flight 801 on the 5th

August 1997 on approach to Guam in which the captain, a highly regarded, experienced and decorated pilot, failed to adequately brief his inexperienced and timid first officer and flight engineer on a non-precision approach he elected to carry out during poor weather conditions. Both the first officer and flight engineer were awed by the captain's experience and lacked the fortitude to correct his mistakes resulting in the accident in which 228 out of the 254 persons on board were killed. Pilots, that is, line, students, and instructors are expected to develop good habits (virtues) whose outcome is safe flight operations.

2.6 Theoretical Framework

Various measures such as CRM training, Aviation Safety Reporting, several rules or regulatory measures, etc., have been introduced by the aviation industry to help improve training and hence mitigate for safety lapses resulting from human error. So far, the measures have had some success but as has been mentioned above, some gaps still exist. From the analysis of the schools of ethics above, Aristotelian virtue ethics, (this is a broad term for theories that emphasize the role of character in moral philosophy rather than doing one's duty or acting in order to bring about good consequences) seem to be more wholesome in tackling these gaps. This study, therefore, used classical virtue ethics theory. Classical virtue ethics theory, according to Rhonheimer (2011), is beholden to the fact that the tradition of Aristotelianism as developed by Thomas Aquinas remains decisively superior to contemporary approaches at the fundamental ethical level. This theory is founded on the metaphysical view of man and is embedded on an ontologically grounded anthropology which thrives on the awareness that the human intellect, and thus the practical intellect, is capable of grasping a truth that does not depend on subjective preferences but is rooted in value-laden being (Rhonheimer, 2011).

Virtue ethics has its roots in the Aristotelian tradition, and flourished in the middle ages with Thomas Aquinas. Subsequent centuries of ethical reflection saw the loss of virtue. In the English speaking circles, Hume's emotivism and Mill's utilitarianism became widespread, while in the continent, the duty-ethics of Kant became paramount. All these schools do make use of virtue theory, but its foundation and role was highly weakened. It took MacIntyre's

celebrated book *After Virtue* (1981) to bring attention to its proper foundation, creating enormous interest in virtue ethics – dubbed the “rediscovery of virtue” – with its consequent vast literature. The present study follows virtue theory as explained by Rodríguez Luño in his collaborative work *Chosen in Christ to Be Saints* (2008). This is a book on moral theology with distinctive and elaborate philosophical argumentation when dealing with the topic of the virtues. Other notable current rigorous authors in the same line of thought are Robert Spaemann and Martin Rhonheimer. The study also used Alexandre Havarad’s book entitled: *Created for Greatness: the Power of Magnanimity* (2013) to develop a conceptual framework (see below) for eliciting the virtues among the participants through questionnaires and interview guides.

As applied in this study, this theory holds that application of the classical virtue ethics by students, instructors/managers in pilot training (independent variables) positively influences the quality of pilots, efficiency in training and a happy working environment resulting in safer flight operations (dependent variable). The following table lists the four cardinal virtues and three questions designed to elicit each of these virtues from the members of the pilot training organization.

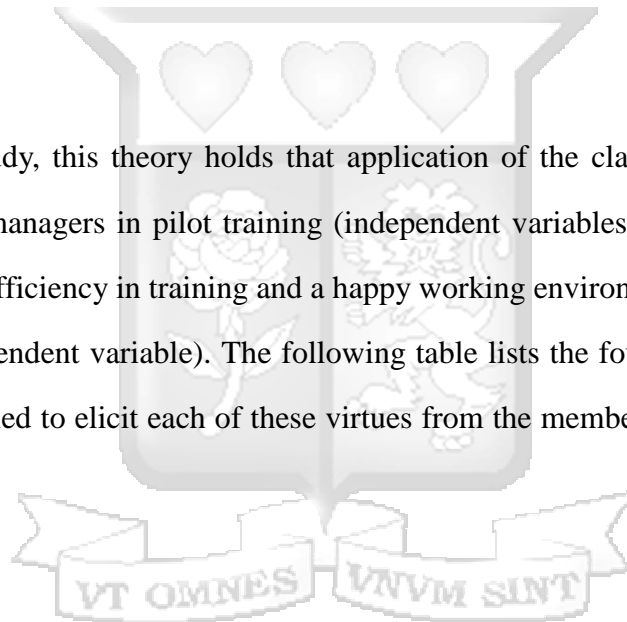


Table 2.1: *The Cardinal Virtues and questions designed to elicit them*

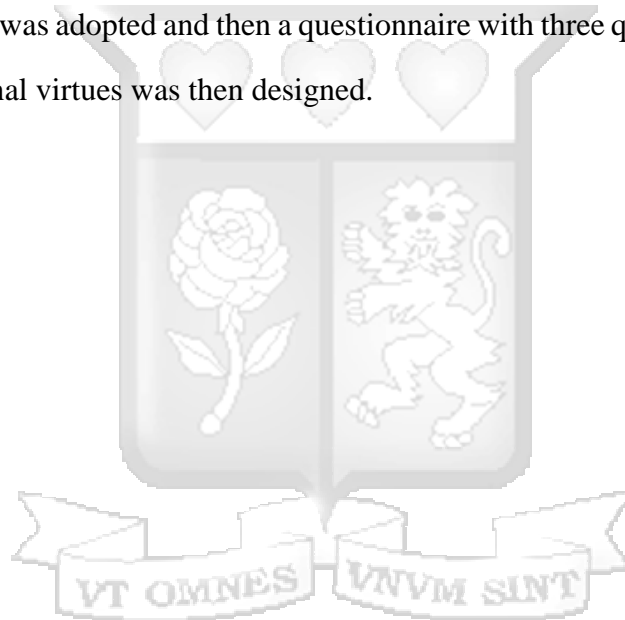
CARDINAL VIRTUES	QUESTIONS TO IDENTIFY
PRUDENCE	<ol style="list-style-type: none"> 1. Are you humble enough to recognize and put aside your prejudices? 2. Are you humble enough to learn from the experience of others? 3. Do you analyze information critically before making a decision?
JUSTICE	<ol style="list-style-type: none"> 1. Do you see your colleagues as objects to be manipulated or as persons to be served? 2. Do you stand for moral truth, even if it means contradicting political correctness and provoking opposition? 3. Do you realize that people are persons and not abstract factors of production?
FORTITUDE	<ol style="list-style-type: none"> 1. Do you maintain the integrity of your conscience, even if you have to pay a price? 2. Do you maintain your focus and persist despite the obstacles? 3. Do you summon courage to deal with difficult issues head-on?
TEMPERANCE	<ol style="list-style-type: none"> 1. Do you do what you like to do, or what should be done? 2. Are you a slave to money, power, fame and/or pleasure? 3. Do you get caught up doing what is “urgent”, rather than what is truly important?

Questions adapted from: *Created for Greatness: The Power of Magnanimity* (Alexandre Havard, (2013)).

The questions were tinkered to make them relevant to the respondents and their place of work.

2.7 Conclusion

KQ Operations manual Parts A and D have pieces of procedures to be adopted during training though it is not virtue centered. CRM was introduced to mitigate against safety lapses due to human factors and has achieved some success but the evidence available suggest that some gaps still exist, especially in its adoption by pilots and enforcement by management. ALPA's code of ethics is a trade union document with weaknesses especially in enforcement. Ethical philosophical considerations suggest virtue ethics as the most suitable for pilot training since character has a direct relationship with competence and that human action should be directed towards the pursuit of the good and avoidance of the bad. A theoretical framework based on classical virtue theory was adopted and then a questionnaire with three questions meant to elicit each of the four cardinal virtues was then designed.



CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.0 Introduction

In this section the researcher presented a detailed description of the selected research designs. It included the target population, sample and sampling procedures, description of data collection instruments and procedures and a narrative of data analysis procedures applied to achieve the objectives of the study. An explanation of the ethical considerations employed during the data collection process was also made.

3.1 Research Design

Brink & Wood (1998, p. 100) state that the purpose of a research design is to provide a plan for answering the research question and “is a blueprint for action”. It is the overall plan that spells out the strategies that the researcher used to develop accurate, objective and interpretative information.

This research used mixed research paradigms. The paradigms enabled the researcher to obtain statistical, quantitative results from a sample and then followed up with a few individuals to probe or explore those results in more depth (Creswell, 2014). The study employed cross sectional survey research design (which is a type of survey design) as proposed by Frankael, Wallen and Hyun (2012) and phenomenology design. Frankael, Wallen and Hyun (2012) note that data collection in a cross sectional survey is done once in a point of time. Cross sectional survey design was used to measure the attitudes and opinions of the participants. Secondly, it enabled the researcher to generalize the findings from the sample to the entire population (Orodho & Kombo, 2002). This type of survey allowed the researcher to collect data from the sampled participants and to make inferences about the target population at one point in time. Phenomenology enabled the study to collect first hand; in-depth information using interview guides to supplement data gathered using the cross sectional survey design.

3.2 Target Population

Polit & Hungler (1995) define a target population as the entire set of population or individuals or elements that meet the sampling criteria. This study targeted the pilot training organization in Kenya Airways. The participants comprised of managers, instructors and students. The managers were targeted because they are charged with the task of ensuring that company policies are observed and standards maintained, including the relationship of instructors' competence to their characters. The instructors were targeted since they are the implementers of the said policies and also because they interact directly with the students and have information regarding the relationship between a pilot's character and performance. The students are the very group to whom the efforts to improve quality is targeted and as such are well placed to give information on which strategies encourage or hinder excellence in training.

3.3 Description of Samples and Sampling Procedures

Probability and non-probability sampling techniques were used in the study. A probability sample is a sample in which every unit in a population has a chance (greater than zero) of being selected in the sample, and this probability can be accurately determined. Non-probability sampling is any sampling method where some elements of the population have no chance of selection e.g., persons believed to be of no use to the study can be ignored. The rationale for using these two techniques is because the study employed a mixed paradigm method. At the time of the study, the total number of pilots in KQ was 500 and this included students, instructors and managers. The study used a confidence level of 95% and a confidence interval of 5% and got a sample size of 217 as shown on table 3.1, below. The Study stratified the samples and targeted 176 students, 48 instructors and 4 managers making a total of 228 which is above the minimum needed number of 217.

Table 3.1: *Easy sample size calculator*

Confidence level = 95%			
Margin of error			
Population size	5%	2.5%	1%
100	80	94	99
<u>500</u>	<u>217</u>	377	475
1,000	278	606	906
10,000	370	1,332	4,899

Table copied from: *Checkmarket.com*

3.3.1 Sampling of Students and Instructors

The researcher used stratified random sampling technique to select the individuals to be included in the sample. Stratified technique was applied in order to obtain a representative sample if a population from which a sample is to be drawn does not constitute a homogeneous group (Kothari, 2004). This technique was preferred because it guaranteed that the members of the target population were included in the same proportion in the sample. Students targeted were in the following phases of training: Ground School, Simulator Training, Line Training, and Mentorship phases. Eleven students were targeted in each stratum and since KQ has four fleets, the total number was 44 representing 35.20% of the pilot population in KQ as at 5th August 2015. Stutely (2003) recommends a minimum of 30% for all classes in the category.

The sampling of instructors adopted the same technique as described above for students since their distribution is similar to that of students however they are fewer in number. Four instructors in each stratum in all the fleets were used adding up to a total of 16 and this represents 40% of instructor population. One external instructor from Boeing was interviewed.

3.3.2 Sampling of the Managers

There are four fleet managers and the Head of Training; this makes the total number of

managers five of whom only four were targeted. The fifth manager was ignored because she had just been appointed to the position and did not have any background in training thus the researcher considered her input as unhelpful to the study. This study purposively sampled (purposive sampling is a type of non-probability sampling) and selected two managers in this category; one was readily available in the offices most of the time as compared to the other managers, hence was easy to be reached by the researcher, while the other manager was purposively sampled because the researcher thought she had adequate and relevant information needed for the study. Kombo and Trump (2006) assert that purposive sampling method enables the researcher to target a group of people believed to be reliable for the study. A summary of the sampled participants is given below in Table 3.2.

Table 3.2: *Summary of Sampling Procedures and Sample Size*

Pilots	Sampling procedure	Target population	Sample	Percentage (%)
Students	Stratified random	500	176	35.20
Instructors	Stratified random	120	48	40
Managers	Purposive	2	2	100
	Stratified	2	2	100

3.4 Description of Data Collection Instruments

The researcher used questionnaires and in-depth interview guide. The questionnaires were in written form for the participants to respond to. The written interview guide provided the researcher with a clear flow of information steered by the research questions. These instruments were prepared by the researcher.

3.4.1 Questionnaires

The researcher used two sets of questionnaires for the study: one for the students and another for the instructors and managers [see Appendices II (a) and II (b)]. Both closed and open-ended questions were used. Closed ended questions were useful because they are conclusive in nature and therefore create data that is easily quantifiable. Conversely, open-ended questions gave the

participants liberty to answer without restrictions from concrete options (Creswell, 2014).

3.5 Description of Data Collection Procedures

The researcher was initially required by Strathmore University School of Humanities and Social Sciences to obtain a guarantee from KQ that such research is acceptable. The initial approval was obtained from the Chief Pilot (see Appendix III). Armed with that, clearance from the School of Humanities and Social Sciences at Strathmore University was obtained (see Appendix VI). Further clearance to proceed was sought from the Head of Learning at Kenya Airways in accordance with KQ procedures (see Appendix V). After obtaining clearance from KQ (see Appendix VII), the researcher proceeded to various training venues and sought permission from the local training facilitators/instructors and respondents to proceed with the research. Further approval was sought and obtained from KQ to submit the completed document to Strathmore University (see Appendix VIII).

The researcher administered some questionnaires in person and some through the internet due to time constraints. Self-administration of the questionnaires was cost effective; furthermore, the researcher was able to answer any questions raised by the participants during the exercise. Face to face interview was conducted for some participants across the sampled population using an in-depth interview guide [see Appendices II (c) and II (d)]. This enabled the researcher to establish rapport and enlist the cooperation of the participants thereby accessing in-depth information through probing. Three respondents were interviewed on telephone.

3.6 Description of Data Analysis Procedures

After all data had been collected, the researcher conducted data cleaning, which involved identification of incomplete or inaccurate responses, which were corrected to improve the quality. After data cleaning, the data was coded and entered in the computer for analysis using the Statistical Package for Social Sciences (SPSS) version 16. Likert scale was used to analyze attitudes. Quantitative data was summarized into frequencies and percentages and the findings presented in form of tables, charts and graphs, with explanations given.

Qualitative data from the interview guide was transcribed and translated into words. Data was then edited, ambiguities removed and categories created using codes and the findings presented using narratives and direct quotes. Finally the results were interpreted, conclusions drawn and recommendations made.

3.7 Ethical Considerations

The researcher disclosed the real purpose of the research, told the truth and gave all the facts about the research in order to enable the respondents to make an informed decision whether to participate or not. Anonymity and confidentiality of the participants was safeguarded as a sign of respect and also to protect them from any possible harm – physical or psychological. This enabled the participants to make uninhibited response to all questions without fear of victimization. Thus, codes were used in settings such as personal details of the participants. McMillan & Schumacher (2006) recommend the use of codenames for people and places.

3.8 Conclusion

This research was designed to follow a mixed paradigm method and questionnaires provided and interviewed the subjects in their natural settings. The target population was randomly and purposively picked from the training organization with pre-set numbers in each phase of training and sub-group and ethical issues taken into account. The data was then analyzed and conclusions drawn.

CHAPTER FOUR

PRESENTATION OF RESEARCH FINDINGS

4.1 Introduction

This chapter presents the data of findings on airline pilots' views on the place of virtues in pilot training, i.e., whether they are necessary; which virtues are needed more; and how the virtues can be implemented in a training scheme. The study was conducted in Kenya Airways training centers and targeted student pilots, instructors and managers. The researcher used questionnaires and interviews to obtain data. The findings were presented in frequency distribution tables, graphs and pie charts. Each question was analyzed in line with the question items in the questionnaires and interview guides that gave relevant data. The summaries of the research findings are given in frequencies and percentages.

The participants consisted of training managers, instructors, and students in ground school, route, mentorship, and simulator training. Table 4.1 below, shows the actual response of the participants.

Table 4.1: *Participants' Response Rate*

Participants	Expected	Actual	Response rate
Managers	4	4	100.00%
Instructors	48	37	77.08%
Students	176	140	79.55%
Total	228	181	79.38%

As shown in Table 4.1, above, the participants in most of the target groups fell short of the initially targeted numbers. Out of 228 questionnaires, only 181 (4 managers, 37 instructors and 140 students) were filled and returned. All the targeted managers filled their questionnaires while only 37 out of the targeted 48 instructors filled the questionnaires. This is because

training is continuous and the researcher was unable to get all the needed instructors within the set period since they were away on duty. Some instructors (three) and 11 students just decided not to fill in the questionnaires citing their busy schedules.

Also, the study was conducted at a time when the pilot community and management in KQ were going through an acrimonious phase in their labor relations which was widely reported in the media. This acrimony could have affected the response rate in filling the questionnaires, particularly the senior pilots who were most affected by the standoff. The researcher had also set out to conduct document analysis as part of the research but due to the tense industrial climate, particularly between pilots and the airline management, had to abandon it as the managers in charge were not willing to avail the needed documents while some data from the observations were omitted since it would have, in the researcher's view, amounted to an adverse audit of KQ and would not have been well received by the management hence could have jeopardized the researcher's job. Despite the omitted data the researcher opined that the captured data was sufficient for the purposes of the research and the findings were considered valid. This is because the omitted data was only required to support the quantitative data which was also supported by data from the questionnaires.

Out of the targeted 176 students, the researcher only managed to get 140 filled questionnaires. Again this was due to the fact that training is always ongoing and getting all the required students within the set period proved difficult. All in all, the response rate achieved was 79.55% which is good compared to the minimum recommended response rate of 60.00% according to Kothari (2005).

4.2 Demographic information of the Participants

The study sought demographic information of the participants including gender and stage of training. Age was not considered in the study which covered 4 managers, 37 instructors and 140 students.

4.2.1 Gender Distribution vs. Stage of Training

The study was interested in establishing gender distribution in each of the three stages of training. The data obtained regarding the distribution was analyzed and presented in table 4.2.

Table 4.2: *Gender distribution vs. stages of training among students*

Stage of training	Gender		Total
	Female	Male	
Ground School training	9	61	70
Simulator training	3	28	31
Line Training	3	36	39
Total	15	125	140

From Table 4.2, above, the researcher established that 70 (50.00%) of the students who participated were in the Ground School phase of training. This is because they were easy to reach by the researcher since they were found in a classroom setting at KQ headquarters. Most simulator training is conducted abroad and the researcher could not manage to travel to all those centers (due to constraints of time and money), hence the low number (22.15%) while Line Training is conducted in a real time environment with passengers and/or cargo, and priority is given to on-time performance—hence time was hardly available for the students in this category to fill in the questionnaires, a response rate of 27.85% was achieved. The rates are in stark contrast with the intended 11 participants per fleet in each phase of training. The researcher let the Ground school participants fill in the questionnaires to cover for the shortfall in Line and Simulator phases of training since they also attend Simulator and Line Training and therefore their responses were considered valid.

There were more male participants in all stages than the females (who constituted only 11.48% of the participants) because the number of female pilots in KQ constitutes only 8% of the total pilot population.

4.3 Students responses to the Questions

This section presents the responses given by the students to the various questions. It begins with an overview of the responses to all the questions asked (global) and then later goes deeper into each question and analyzes why the responses are so.

4.3.1 Overview of Responses to Questions

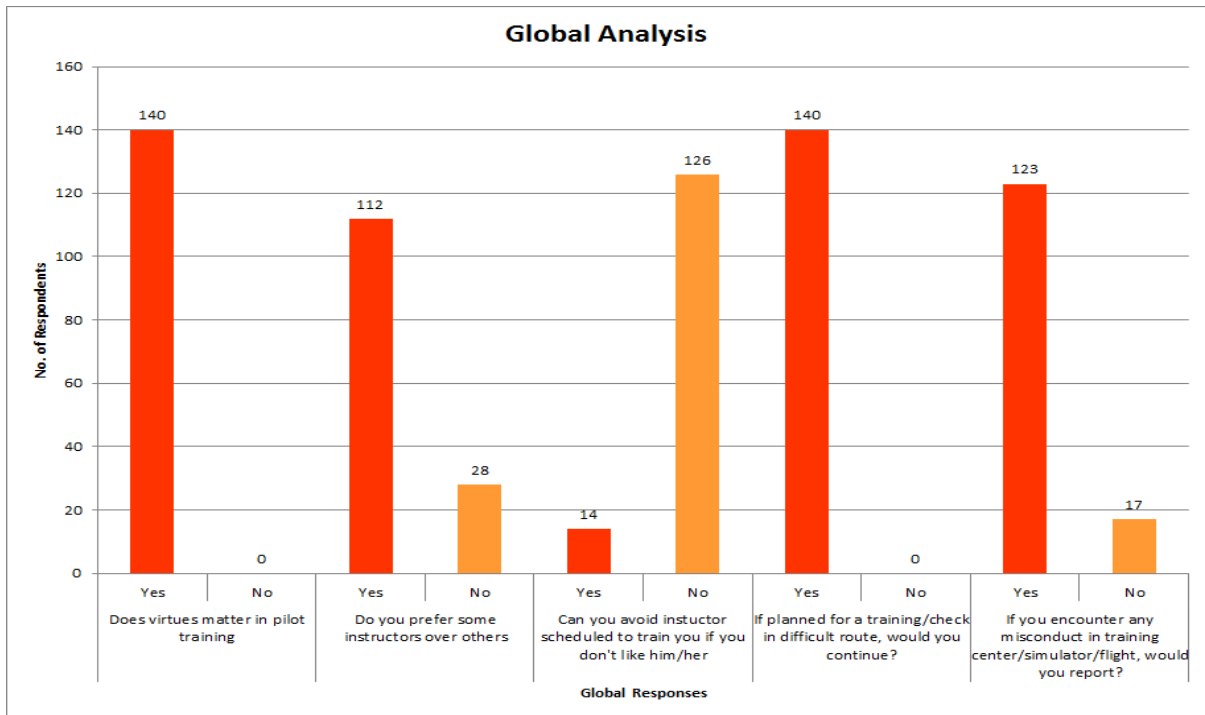


Figure 4.1: *Students' Global Analysis*

Figure 4.1, above shows that an overwhelming majority (100.00%) of the students believe that virtues matter in pilot training, whereas 80.00% of the students prefer some instructors over others and 20.00% do not, while 10.00% of the students can consider avoiding the instructors they don't like—meaning 90.00% would be courageous enough to soldier on with instructors they don't like. All the students participants (100.00%) would not consider avoiding training if scheduled on a difficult route. 87.86% of the students would report misconduct if they came across it in the training organization.

4.3.2 Why Virtues Matter in Pilot Training

From Figure 4.1, above, all the student respondents believe that virtues do matter in pilot training. The study went further to inquire why the respondents consider virtues to be necessary

for pilots under training and consequently at their places of work. Figure 4.2, below provides the various reasons as cited by the students. The section of the question why virtues are not necessary was ignored in this analysis since no participant thought that is so.

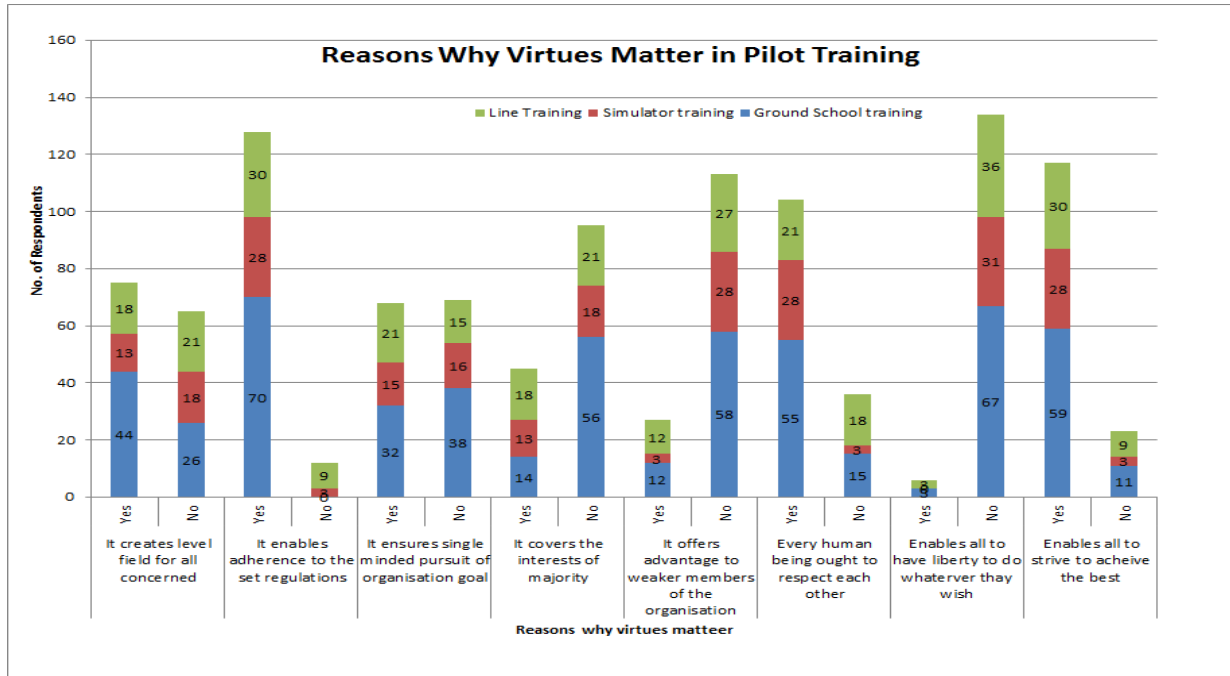


Figure 4.2: *Reasons why Virtues Matter in Pilot Training*

All the students interviewed believe virtues matter and are indeed needed in pilot training. The reasons given in support of virtues were mixed.

It Creates a Level-field for All Concerned

Some 46.43% of the respondents believed virtues do not create a level field for all those involved in pilot training while 53.57% thought virtues do indeed create a level playing field for all in the department. This mixed response is surprising considering that all respondents believed virtues are necessary. Perhaps the question was found to be ambiguous by the respondents and thereby resulting in such a mixed response. If indeed the respondents who believe virtues do not create a level field for all concerned understood the question well, then the response suggests that virtue training is needed among the pilot community since this is a display of lack of virtues of justice. Again, the mixed response could signify prudence since the creation of a level field could mean letting the weak students pass—which is not good for the profession.

It Enables Adherence to set Regulations

An overwhelming 91.43% of the respondents believed that virtues are necessary because it enables adherence to the set regulations while 8.57% thought contrariwise. Here the respondents believe that virtues help in internalizing rules and creating obedience in the agent. Obedience is a moral virtue that inclines the will to comply with the will of another who has the right to command—it teaches us to be humble, shed our ego and pride, aligning it with the cardinal virtue fortitude.

It enables Single-Minded Pursuit of Organizational goals

As to whether virtues are necessary because it enables single minded pursuit of organizational goals, only 48.57% were in favor while 51.43% were against. The responses here were mixed indicating the respondents want organizational goals achieved but at the same time it should not be the sole consideration and that other issues should not be overlooked—indicating a bias towards the virtue of prudence. It is the opinion of the researcher that some virtuous pilots may sometimes put aside organizational goals in order to pursue a greater good whereas the vicious ones may just ignore those goals for reasons other than virtue.

It Covers the Interests of the Majority

The respondents were asked whether virtue is necessary because it covers the interests of the majority and only 32.14 % were in favor while 67.86% were against. This shows a clear rejection of utilitarianism as a basis of ethics in pilot training. Rather, the focus should be on the truth and hence quality, not on the interests of the majority—which may mean ignoring the minority and causing them injustice.

It Offers Advantage to the Weaker Members of the Organization

As to whether virtues are necessary because it offers advantages to the weaker members of the organization, only 18.57% were in favor while an overwhelming 81.43% were against. This rejection could have been driven by the belief that for the sake of quality and safety, favoring underperformers could lead to catastrophic outcomes. This is response suggests an endorsement of the virtues of prudence and courage in the sense that the agents are able to

resist the temptation to lower standards in order to give advantage to the weak.

Every Human Being ought to Respect Other Persons

The students were asked whether virtues are necessary because every human being ought to respect other persons, 75.00% were in support while 25.00% were against. This indicates the desire for the virtue justice, the need for self-control and humility (courage).

It Enables All to Have Liberty to do whatever they wish

The respondents were further asked if they thought virtues are needed because it enables all to have liberty to do whatever they wished and 96.43% rejected this libertarian approach while only 3.57% were in favor. By rejecting this approach, the students did show preference to order— meaning being mindful of others and the organization (justice), temperance, courage (humility) to submit to order (laws) and prudence.

It Enables All to Strive to Achieve Their Best

Finally, the respondents were asked if they thought virtues are needed because it enables all to strive to achieve their best and 83.57% agreed while 16.43% were opposed—capturing the essence of virtue in the life of a person by enabling the person (and the organization) to aim for their *telos*.

4.3.2 Preference of Some Instructors over Others

The respondents were asked whether they preferred some instructors over others and they responded as shown in Figure 4.3, below.

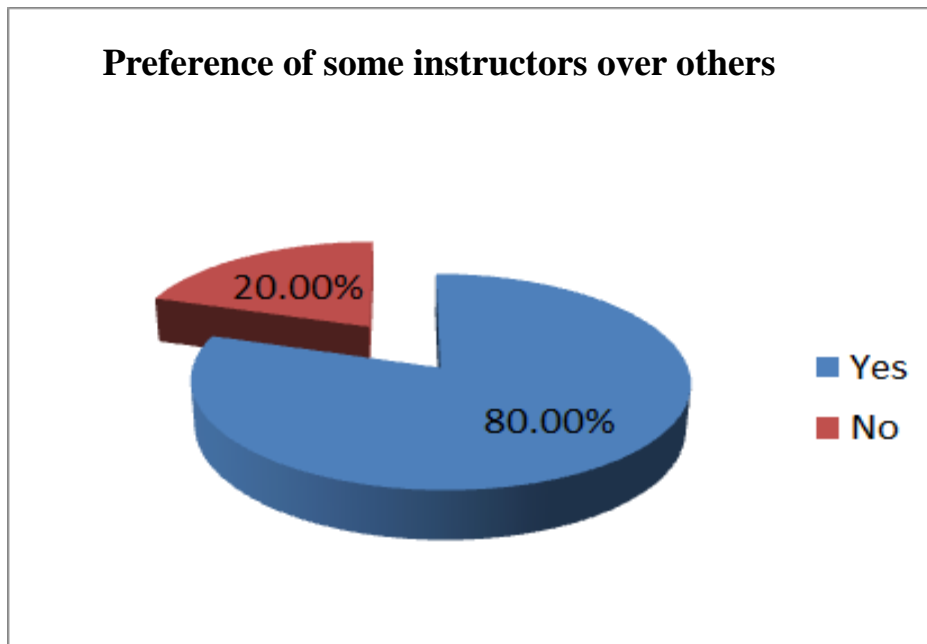


Figure 4.3: *Preference of some instructors over others*

Figure 4.3, above indicates that 80.00% of the respondents prefer some instructors over others while only 20.00% do not. The question proceeded to inquire why they preferred some instructors over others. The numbers of those in the negative were considered low and hence no further analysis was done as to which reasons inspired their position. Figure 4.4, below, presents the main reasons why some students would prefer some instructors over others.

They Are Forgiving

Of the 112 (or 80.00%) respondents who preferred some instructors over others, all (112) responded to the forgiving nature of instructors as a criterion for their preference. 25.49% of them thought forgiveness is a virtue among instructors while 74.51% thought contrariwise. The researcher interpreted this to mean the respondents appreciated that piloting is an unforgiving profession requiring perfection and that silly mistakes should not be tolerated for the interest of safety. Here courage among the students is highlighted as well as prudence and justice to the employer and passengers/cargo.

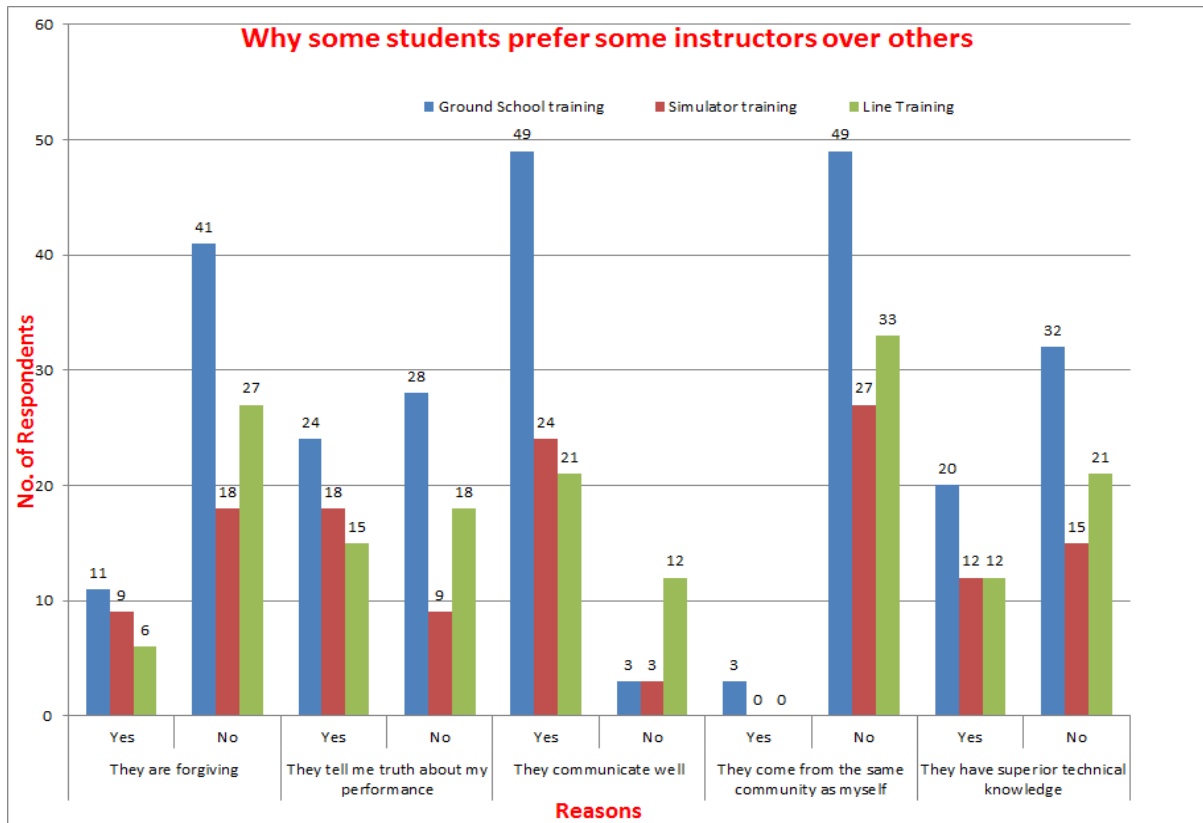


Figure 4.4: Why some students would prefer some instructors over others

Tell the Truth about My Performance

On the question whether some students prefer certain instructors because they tell them (students) the truth about their performance, 112 (80.00%) students responded and out of these 57 (50.89%) responded in the affirmative while 55 (49.11%) were in the negative. While a slim majority prefer to be told the truth about their performance by the instructors, it was not clear to the researcher why the numbers of those opposed was so high. One possible explanation could be due to the students understanding ‘being told the truth about my performance’ to mean ‘being berated’ by the instructors. Humility (courage) as a virtue is demonstrated by those in the affirmative. As discussed in Chapter 1, refutation (Socratic Method) as a technique of teaching is loathed by students and hence does not make instructors popular. Students should be encouraged to lean towards the truth—therefore the need for virtue of humility in training.

They communicate well

Ninety-four (or 83.93%) of the students who prefer some instructors over others cited their (instructors) ability to communicate well as a reason for the bias while only 18 (or 16.07%)

were in the negative. This highlights the need for virtues of justice and temperance by instructors to their students. Prudence also comes into play as instructors cannot expect good products without good communication.

They are from the same Community as Myself

Only 3 (or 2.68%) of 112 students who responded to the question whether they preferred some instructors because they (instructors) came from the same community as the student were positive, while an overwhelming 109 (or 97.32%) were against. This response, in the researcher's view, captures all the cardinal virtues: prudence by being able to adjust and work with persons from all communities, justice by being fair to all instructors regardless which community they come from, courage by being able to face situations as they come and temperance by being able to subordinate personal preferences in order to do what is required.

They have Superior Technical Knowledge

Some 44 students (or 39.28%) or those who preferred some instructors over others did so because of the instructors' superior technical knowledge while 68 students (or 60.72%) did not consider technical knowledge as a criterion to prefer some instructors over others. The researcher understood this to mean that technical knowledge alone is necessary but not sufficient and therefore selecting instructors purely based on their technical knowledge is wrong and that (character) virtues should take precedence. The virtuous instructor should also have adequate technical knowledge through wisdom and the will to do what is necessary for the job/task at hand i.e., instructing students and producing good pilots.

4.3.3 Avoidance of Some Instructors by students

The respondents were asked if they would consider avoiding some instructors they disliked were they to be scheduled to train together. 90.00% responded in the negative while only 10.00% were in the positive category.

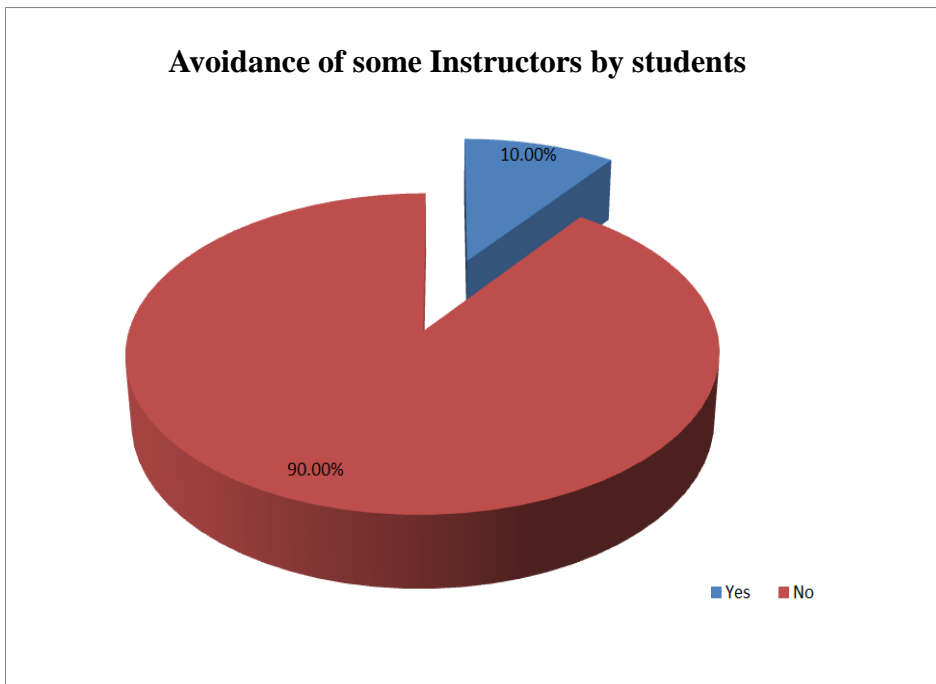


Figure 4.5: *Avoidance of some Instructors by students*

Figure 4.5, above, shows that 90.00% of the respondents would not consider avoiding some instructors they disliked if scheduled for training together. This response, again, appears to suggest that students' prefer virtues over vices as all the four cardinal virtues namely; prudence, justice fortitude and temperance are captured by the response. The reasons for this response are given below.



Figure 4.6, below, shows the reasons why the majority of students would not consider avoiding some instructors. Since 90.00% would not consider avoiding some instructors, the researcher considered the numbers of those willing to avoid some instructors negligible and did not proceed further to analyze the reasons why they did so.

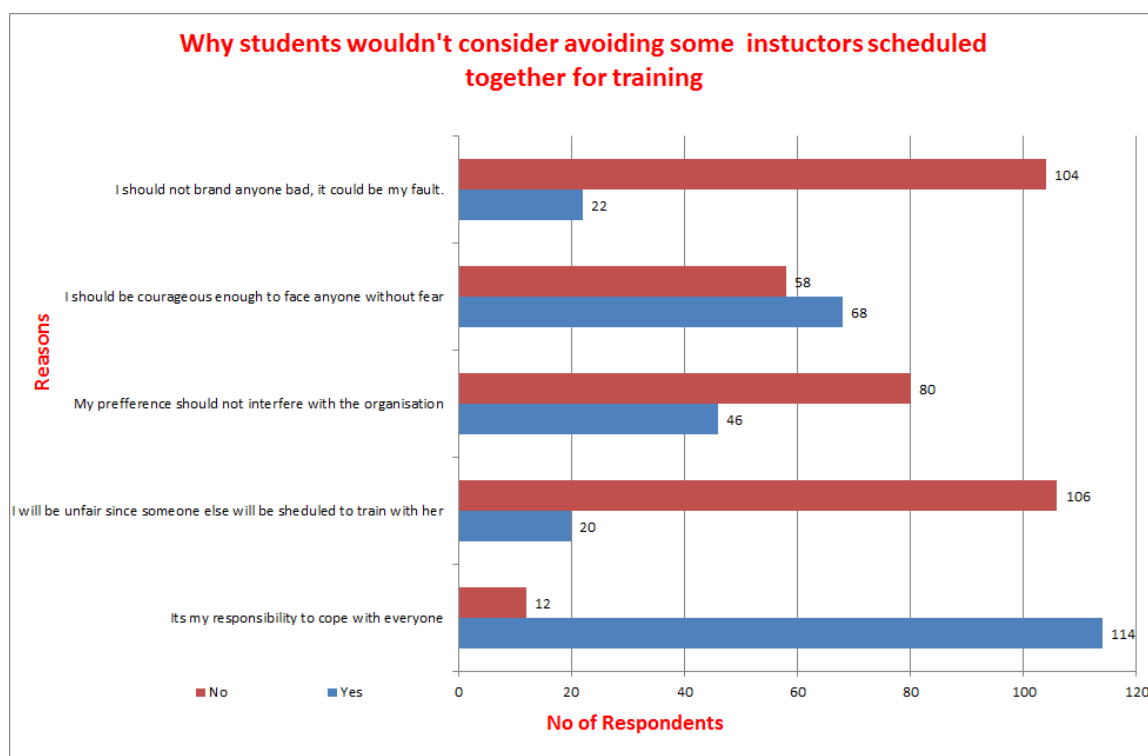


Figure 4.6: *Why Students Would Not Avoid Instructors they don't like*

Should not Brand Anyone Bad

The respondents were further asked whether they 'should not brand anyone bad as it could be their (respondents') own fault' as a motivation for not considering avoiding some instructors and 22 respondents (or 17.46%) were in agreement while 104 respondents (or 82.54%) were opposed. Again as mentioned in the preceding paragraphs, this response could have been due to the fact that the respondents found no flaws with the instructors therefore liked them all.

Courageous Enough to Face Anyone without Fear

Sixty eight respondents out of 126 (or 53.97%) thought that being 'courageous enough to face anyone without fear' was a good motivation for not considering avoidance of some instructors they did not like. On the other hand, 58 (or 46.03%) thought that was not a cause good enough for taking such action. Here, the virtue courage takes center stage and prudence and justice are equally suggested by those in the negative if they saw no reason to avoid some instructors. The mixed response defines the proper place for courage (the mean between cowardice and temerity).

My Preferences Should Not Interfere with the Organization

Of the participants, 46 respondents (or 36.51%) of those who would not consider avoiding some instructors thought that their ‘preferences should not interfere with the organization’, therefore avoiding some instructors because of that is out of the question. 63.49% (or 80 respondents) thought this was not a very good motive for not avoiding some instructors. Again, as mentioned in the paragraph above, most respondents could have had more compelling reasons for not considering avoiding some instructors or because they saw no reason to consider doing so.

I would be Unfair to My Colleagues

Out of the 126 respondents who would not consider avoiding some instructors, 106 respondents (or 84.13%) indicated that being unfair to their colleagues since someone will still be scheduled to train with the instructor the respondent does not like is not a good motive for not considering avoidance of some instructors. 20 respondents (or 15.87%) thought that fairness to their colleagues who would be rostered to train with the instructor in question was a good reason not to avoid the instructor. The researcher interpreted the response to this question to mean that the respondents felt the reasons for not avoiding some instructors were internal to the individual and that using an external reason such as fairness to colleagues was secondary. If this was so, then the respondents’ ability or need to look inwards and summon courage highlights the virtues prudence, temperance, justice and fortitude. Another reason for this response could also be that the respondents liked all the instructors and hence had no motive to avoid any.

It is My Responsibility to Cope with Everyone

For those courageous enough to face any instructor whether they liked them or not, 114 (or 90.48) out of 126 respondents in this category thought it is indeed their responsibility to cope with everyone whether they (students) liked them or not while only 12 respondents (or 9.52%) thought coping with everyone is not a criterion for not avoiding some instructors. Here, the virtues highlighted are: courage by the students to soldier on, temperance by subordinating

personal desires/preferences, justice to all, and lastly prudence by knowing and taking the best course of action in a given circumstance.

4.3.4 Why students will continue with Training on a Difficult Route/Airport

The respondents were asked if they were courageous enough to continue training/check on a difficult route if scheduled. All the respondents (100.00%) were unanimous they would continue training as depicted earlier in Figure 4.1. One student intimated that if she knows the procedures well, then a change of route should “have no effect” on her. This is a demonstration of virtues by the respondents. The study further inquired which reasons motivated this overwhelming response. Figure 4.7, below, shows the various motivators.

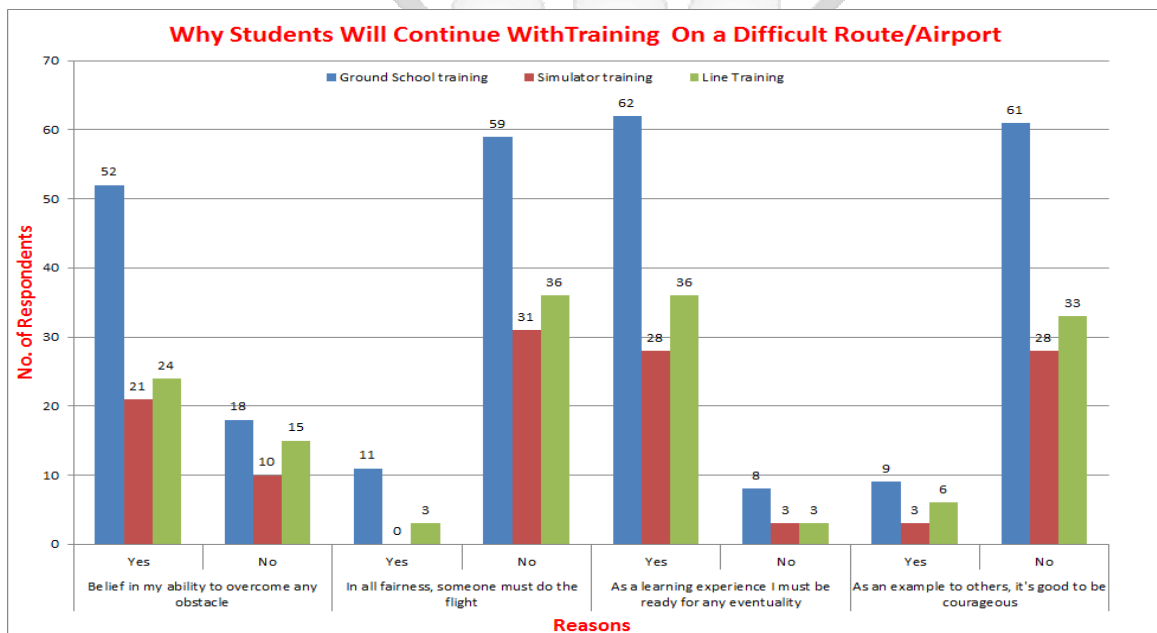


Figure 4.7: Why students will continue with Training on a Difficult Route/Airport

Belief in My ability to Overcome Any Obstacle

Out of 140 respondents, 97 (or 66.43 %) were of the opinion they would continue training/check when rostered to do so on a difficult route because of ‘belief in their ability to overcome any obstacles’, while 43 respondents (or 33.57%) were of the negative opinion. This is an indication of the virtue courage among the respondents in the affirmative. Those in the negative show lack of courage and prudence, temperance and justice. It could also be argued that the naysayers are shunning rashness or temerity and hence are exercising prudence.

Fairness to My Colleagues

When the respondents were asked if they could consider fairness to their colleagues as a motive for doing the flight/check on a difficult route since someone would still be scheduled on that particular route, only 14 respondents (or 10.00%) were in the affirmative while 126 respondents (or 90.00%) were negative. The researcher interpreted this response to mean the students are lacking in the social virtue of justice necessitating the need for training in virtues among pilots. It could also be argued that the majority of respondents showed prudence as the ultimate objective is to excel as a pilot.

As a Learning Experience

A whole 126 respondents (or 90.00%) were positive they would do the training/check on a difficult route if rostered 'as a learning experience since they must be ready for any eventuality', while only 14 respondents (or 10%) were opposed. This overwhelming response indicates that most students are focused on training regardless of how difficult the route is. This is an indication prudence, fortitude, justice and temperance. Nevertheless, those opposed need to cultivate virtue and join their colleagues.

As an Example to My Colleagues

Eighteen respondents (or 12.86%) were in agreement that they would continue to train/check on a difficult route if scheduled 'as an example to other students since it is good to be courageous' while 122 respondents (or 87.14%) thought contrariwise. A plausible explanation for this is that the respondents thought it is good to do things because of the intrinsic goodness of the task and its outcome rather than doing it to impress others. If the researcher's interpretation is correct then virtues of prudence, humility and temperance are clearly highlighted here. Otherwise the response would indicate lack of the virtue of justice.

4.3.5 Instructor Virtues Preferred by Students

The respondents were asked to choose which virtues they would like to see in their instructors. Figure 4.8, below, depicts the responses as given.

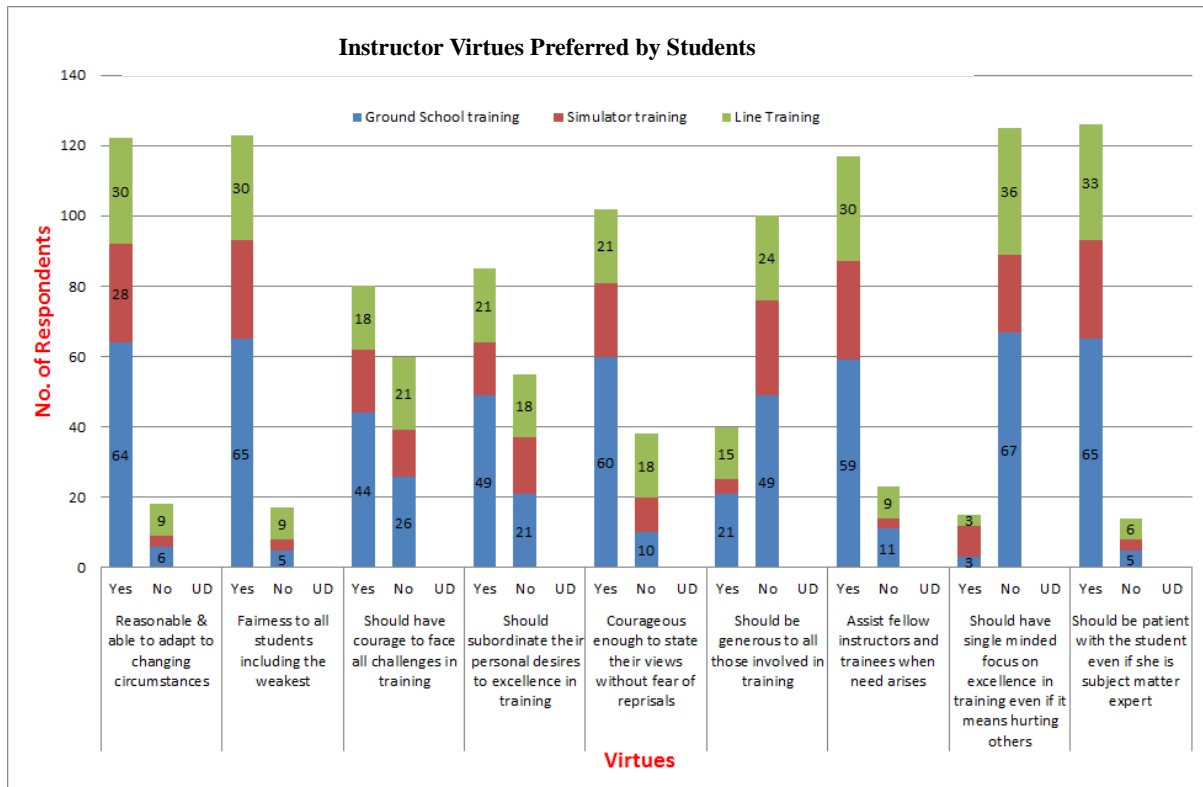


Figure 4.8: *Instructor Virtues Preferred by Students*

Reasonable and Able to Adjust to changing Circumstances

Out of 130 respondents (10 respondents failed to fill in this question and the reasons were not given) who responded to their instructors being ‘reasonable and able to adapt to change’, 112 (86.15%) were positive while 18 (13.85%) were negative. This was a clear reflection of most students’ preference for instructors with the virtue prudence.

Fairness to All including the Weakest

The respondents were also in overwhelming support of the virtue justice among instructors going by their response on the need for ‘fairness to all students including the weakest’ whence 113 respondents (or 86.92%) were in support and only 17 (or 13.08%) were against. Some ten respondents did not mark this category and the reason for that omission was not clear to the researcher.

Should Have Courage to face All Challenges in Training

When the respondents were asked whether their instructors ‘should have courage to face all the

challenges in training’, a mixed response was obtained with 80 (or 57.14%) in the affirmative while 60 respondents (or 42.86%) were against. The mixed response, in the researcher’s view, could have been so because those in the negative (mis)understood courage to mean recklessness and hence by their opting for the negative reply, were affirming preference for caution (prudence) on the part of the instructors. For those in agreement, the virtues of prudence and fortitude are highlighted. On the other hand the respondents could have understood the question to mean acquiescence or persevering in training without pointing out any ills or difficulties—thereby rejecting this category and hence showing support for fortitude and prudence.

Able to Subordinate Personal desires to Achieve Excellence in Training

The respondents were further asked if they preferred instructors who are able to ‘subordinate their personal desires in order to achieve excellence in training’. 135 questionnaires were marked while 5 were not and the reason for the omission was not clear to the researcher. Of the 135 marked questionnaires, 85 (or 62.96%) were positive they would prefer instructors who are able to subordinate their personal desires in order to achieve excellence in training while 50, representing 37.04%, were opposed. Those in agreement affirm the desire for the virtue temperance among their instructors. Those rejecting could have also been due to the fact that they (respondents) considered some personal desires are too important to be subordinated—which is a vice against temperance—or that some personal desires are too important for the instructor to ignore (e.g., family) for they make him whole and consequently a better person/instructor. Three students told of a particular instructor who always asked students a particular question (pet theory) which, if the student answered satisfactorily, then she could consider herself passed even if she does poorly in all other areas!

Courageous Enough to State Their Views without Fear

All of the 140 respondents filled in the question whether they preferred their instructors to be ‘courageous enough to state their views without fear of reprisals’ and 103 (or 72.86%) of the respondents were affirmative while 38 (or 27.14%) were negative. All the four cardinal virtues,

particularly fortitude, are highlighted by those in agreement and those in the negative highlighted the vices against the cardinal virtues.

Generous to All Involved in Training

On the issue whether the students preferred their instructors to be ‘generous to all those involved in training’, 120 questionnaires were filled and 80 respondents representing 66.67% were opposed while 40 respondents (33.33%) were in agreement. The researcher formed the opinion that the respondents took generosity to mean “anything goes attitude” which would imply acceptance of low standards of quality in training (which is a vice) hence by that demonstrating support for the virtue prudence, and courage by shunning generosity from the instructors.

Willing to Assist Fellow Instructors and Students

Should good instructors be those willing to ‘assist their fellow instructors and trainees if need arises’? A commanding figure of 117 out of the 140 respondents (83.57%) was in the affirmative while 23 or (16.43%) were negative. This suggests that the virtue justice as well as the theological virtue of charity among the instructors is preferred by the students.

Single-minded Focus on excellence in Training even if it means Hurting Others

The students were further asked if they would like their instructors to have ‘single minded focus on excellence in training even if it means hurting others’ and the responses were as follows: 15 respondents representing 10.71% were in agreement while 125 respondents (or 89.29%) were opposed as they thought this was not a good quality since it is against the virtues of prudence, justice temperance and fortitude.

Patient with the Student even if the Student has Superior Knowledge

One hundred and twenty six out of the 140 respondents (90.00%) who filled in on the question whether they preferred their instructors to ‘be patient with the students even if the student has superior knowledge of the subject matter than the instructor’ were in the affirmative while only 14 (or 10.00%) were opposed. This represents humility and consequently courage on the part

of the instructor is preferred by the students. Self-control by the instructor as well as justice to the students is also highlighted.

4.3.6 Reporting Misconduct in Training

The respondents were asked whether they would report misconduct if they came across it in the training department and as Figure 4.9, below, depicts, 88.00% were positive, demonstrating the virtue courage, while only 12.00% were negative. The study went further to inquire what the motivating factors were for this. Since those in the negative were only 12.00%, the researcher considered their numbers too few and as such their responses did not warrant further analysis.

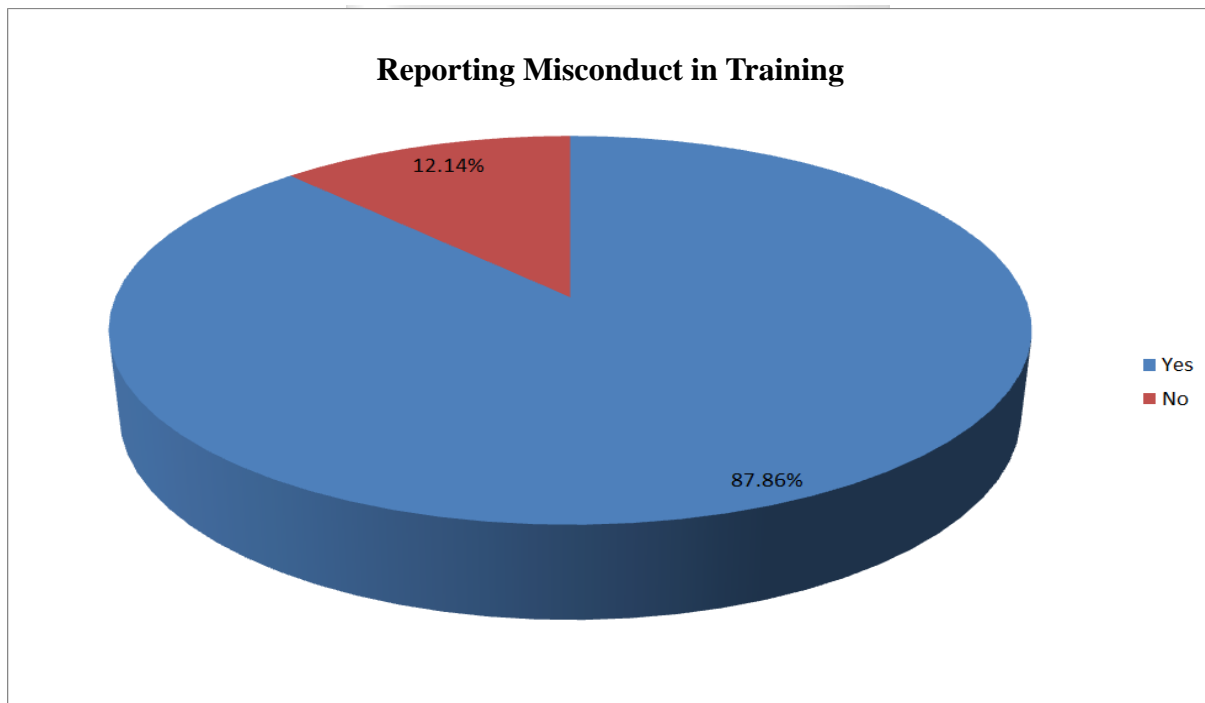


Figure 4.9: *Reporting Misconduct in Training*

Figure 4.10, below, shows how the respondents reacted to the question whether they would report misconduct if they came across it in training and the motivating reasons for their reactions.

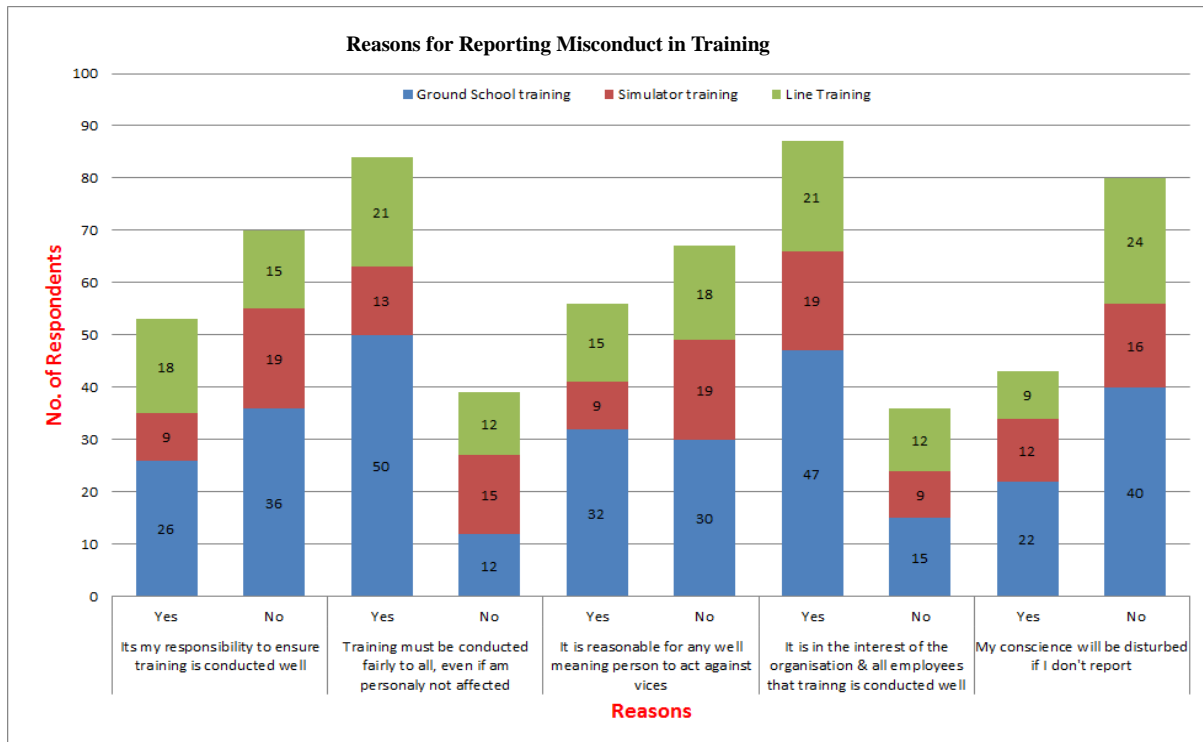


Figure 4.10: Reasons for Reporting Misconduct in Training

It is My Responsibility to Ensure Training is Conducted Well

Seventy respondents (or 56.91%) out of the 123 felt it is not their responsibility to ensure training is conducted well whereas 53 respondents (or 43.09%) thought it is indeed their responsibility to ensure training is conducted fairly to all. It is unclear to the researcher why most students are unwilling to take responsibility to ensure training is conducted well though eight students added that they feared victimization in the event they reported misconduct. This demonstrates lack of virtues of justice and courage (in both the students and instructors/managers) thereby necessitating or suggesting the need for virtue training among pilots.

Training must be fair to all even if I Am not affected

On the category ‘training must be conducted fairly to all even if I am not personally affected’, 84 respondents (or 68.29%) were in the assenting category while 39 (31.71%) were opposed. While a majority were in support of the virtue justice, those against were fairly high and a demonstration of the prevalence of “mind your own business” attitude and the lack of the social

virtue and that of courage among a considerable number of pilots.

It is Reasonable for Any Well-meaning Person to Act against Vices

On the category 'it is reasonable for any well-meaning person to act against vices' 56 respondents (or 45.53%) were assenting whereas 67 (54.47%) were dissenting. Two students added that they feared victimization if they took action to report misconduct. Again, this is a demonstration of lack of virtues courage, justice, temperance and prudence among the pilot community. This fear could also point to the presence of some vicious managers and instructors which the researcher's observation corroborated.

It is in the Interest of the Organization

Would you report misconduct because 'it is in the interest of the organization and its employees that training is conducted well'? 87 respondents (or 70.73%) were assenting whereas 36 (or 29.27%) dissented. This demonstrates fairly well the bias towards the virtue justice and prudence. Nonetheless, those opposed still constituted a considerable number and it would do much good to swing them over to the assenting side through training in virtues.

My Conscience Will Be Disturbed if I don't

I would report misconduct in training because 'my conscience will be disturbed if I don't'. In this category 43 (or 34.96%) respondents were in the affirmative while 80 (or 65.04%) were opposed. The researcher found this response worrying since it portrays most pilots as heartless persons whose conscience is not affected by vices. Perhaps this response is a clarion call suggesting training of pilots in the virtues.

4.3.6 Preferred Methods of Improving Virtues

The respondents were asked to select their preferred methods through which the management could improve virtues among pilots.

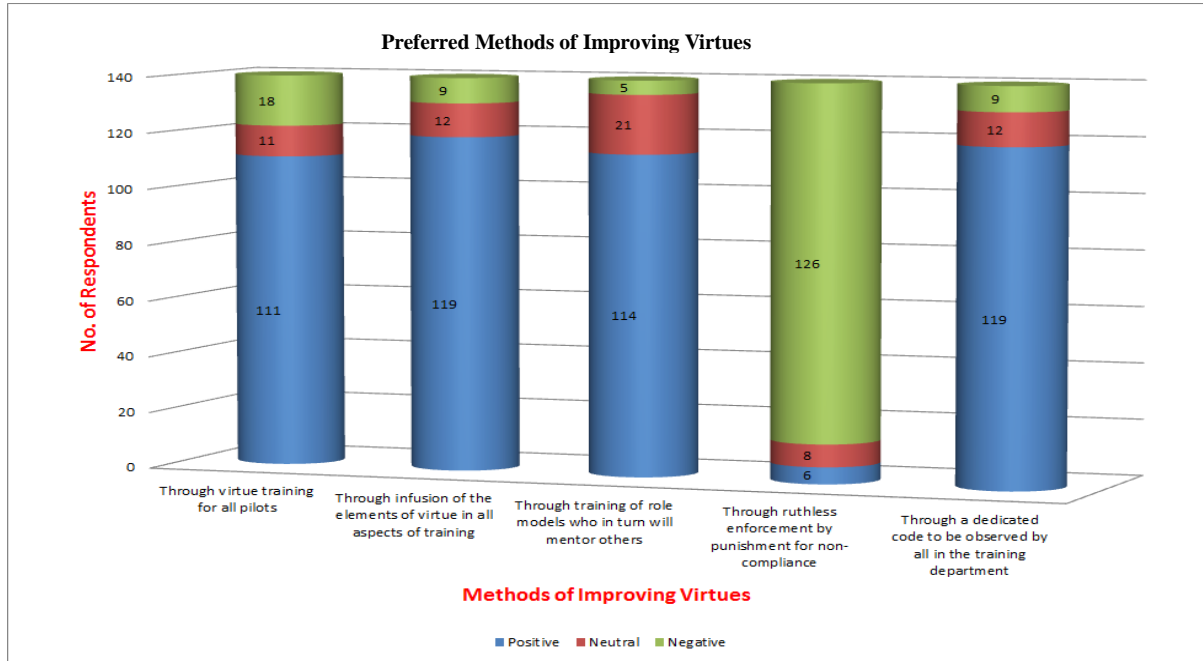


Figure 4.11: Preferred Methods of Improving virtues

Figure 4.11, above, shows students' response to the question on how best virtues could be implemented among the pilot community. 79.30% supported virtue training for pilots while 7.85% were undecided and 12.85% were against training in virtues. On whether to infuse virtues to all elements of pilot training, 85% of the students were in support while 8.57% were undecided and 6.43% were against. Training of role models in virtues who will in turn mentor other pilots on virtues was supported by 81.42% while 15.00% were undecided and 3.58% were against. Only 4.28% of the students supported ruthless enforcement as a method of virtue training while 5.72% were undecided and an overwhelming 90.00% rejected—meaning ruthless methods have no place among the virtues and pilots. 85.00% of the respondents supported the creation of a code to guide the players in the training department on virtues while 8.57% were undecided and 6.43 were against. Clearly, the data above appears to suggest that students, and indeed pilots, prefer virtues training by any other means but not through ruthless enforcement by punishment.

4.4 Responses From Instructors and Managers

As mentioned earlier in this section, only 37 instructors out of the intended 48 participated in the study while all the intended managers participated. All the 37 KQ instructors filled the

questionnaires and 8 were also interviewed. All the targeted managers filled the questionnaires and were also interviewed. One Boeing instructor, a retired pilot of British nationality and who has trained many KQ pilots, code named A, was interviewed at the Boeing training facility in Crawley, UK. The training managers were also interviewed and were coded B, C, and D. Figure 4.12, below, depicts the responses as given by instructors and managers regarding three major questions.

4.4.1 Global Analysis

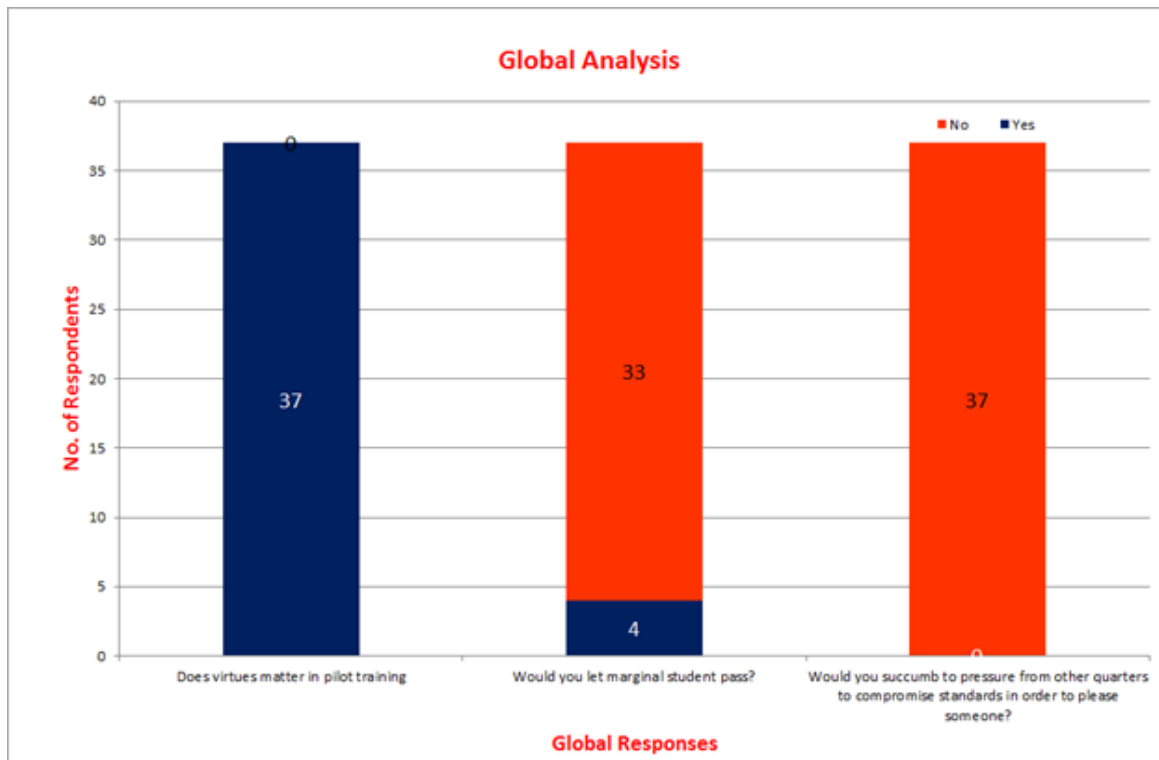


Figure 4.12: *Instructors' Global Analysis*

4.4.2 Why Virtues Matter in Pilot Training

All the instructors interviewed (100.00%) were in agreement that virtue does indeed matter in pilot training. Figure 4.13, below, displays in detail the reasons why instructors think virtue does matter in pilot training.

It Creates a Level Field for all Concerned

All the instructors and managers were of the opinion virtues matter in training because it creates a level field to all those involved in training such as students, instructors and managers.

This is a demonstration of the virtue of justice.

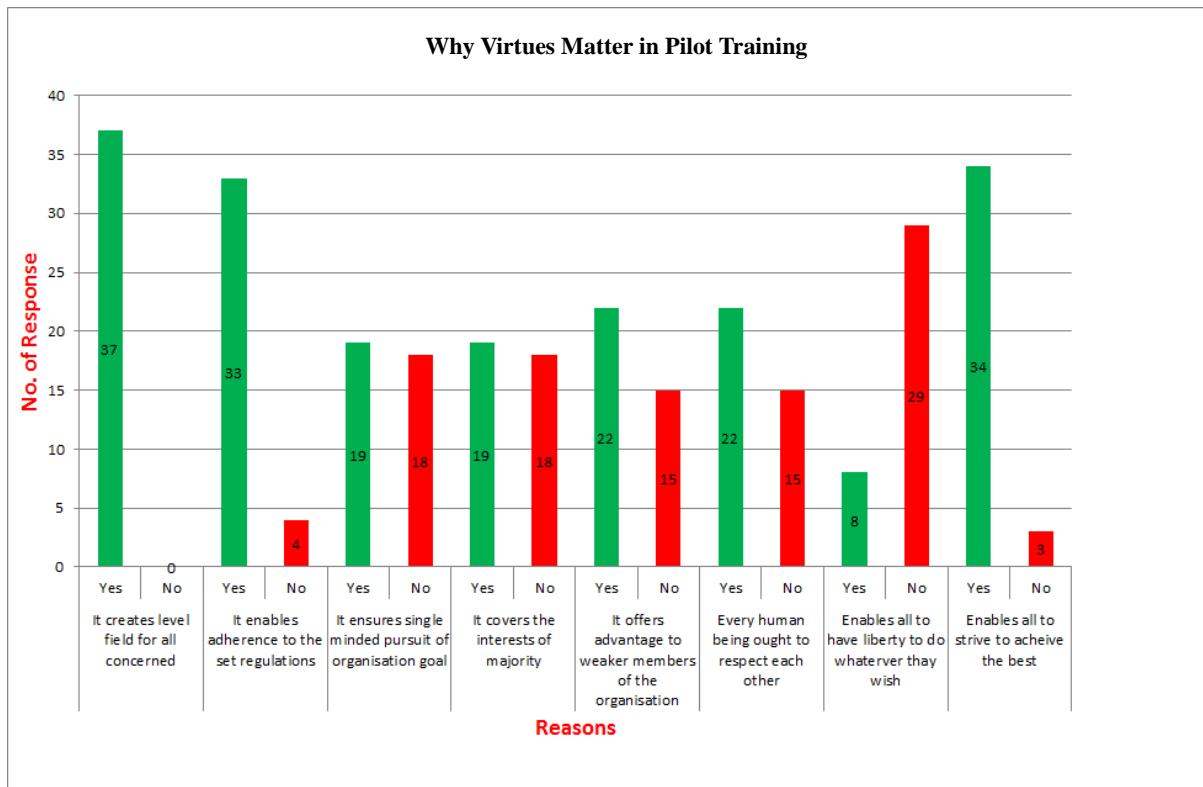


Figure 4.13 *Why Virtues matter in Pilot Training*

It Enables Adherence to the Set Regulations

Thirty three instructors (89.19%) and all managers were in agreement that virtues do enable adherence to the set regulations. Only 4 instructors (or 10.81%) thought contrariwise. This is an overwhelming endorsement of the virtue of humility (fortitude), prudence, justice and temperance. Of the managers interviewed, three were strongly in favour of virtue for it “enables adherence to the set regulations”. One manager, C, said: “virtues weaken regulations” and was unwilling to expand or elaborate why. The researcher found this contradictory especially after all respondents agreed that virtues are necessary in pilot training. A Boeing instructor, A, said in her long career, had “come across pilots who, because of monetary motivations, applied for and became instructors even though they did not exhibit the necessary traits of instructing” such as patience, humility, fairness, genuine desire to impart knowledge, etc.; which she attributable to “poor instructor selection—resulting from favouritism or

incompetence of the selection panel by focusing on the wrong competencies or outright disregard of the regulations”. The researcher, through observation, concurred with these sentiments that indeed there are some instructors lacking in virtues and the genuine desire to instruct but are motivated by other values.

It Ensures Single-minded Pursuit of Organizational Goals

Nineteen (or 51.35%) of the instructors thought virtues matter in pilot training because it enables single-minded pursuit of organizational goals and 18 (or 48.65%) thought otherwise. The responses here were mixed—perhaps because the respondents appreciate that virtue calls for a middle position. Single-mindedness in pursuit of organizational goals would mean ignoring all other issues and focusing on organizational goals alone, even if it means hurting others—which is a vice. Also, organizational goals are important and must be pursued but at what cost? The managers interviewed were also divided on this item.

It Covers the Interests of the Majority

Nineteen (51.35%) of the participating instructors believe virtues matter in training because it covers the interests of the majority while 18 (or 48.65%) were opposed. Again the responses were mixed indicating the respondents are torn between supporting the interests of the majority and minding those of the minority. The researcher concluded that this divide suggests a call for training in virtues to enable instructors and, indeed, all pilots to make virtuous decisions such as taking care of the minority interests as well. The managers were equally divided on this issue.

It Offers Advantage to the Weaker Members of the Organization

Twenty two instructors (or 59.46%) participating agreed that virtues are necessary because it offers advantage to the weaker members of the organization and 15 (or 40.54%) did not think so. As mentioned earlier in this chapter, piloting is unforgiving and mediocre performance is not acceptable. The researcher opined that the high number of respondents opposed to this category could have been motivated by the desire for perfection in quality and safety by discouraging mediocrity. Still, those who think weaker members have to be protected are

significant.

Every Human Being Ought to Respect Each Other

Twenty two respondents (or 59.46%) supported the view that virtues are necessary because every human being ought to respect each other whereas 15 (or 40.54%) disagreed. The virtues justice and prudence are highlighted by those in agreement. The high numbers of those opposed to this category of question calls for teaching of virtues to pilots. It should be noted here that CRM training emphasizes respect and understanding among pilots at their places of work as a way of enhancing safety through better error management.

Enables All to Have Liberty to Do Whatever They Wish

Of the 37 respondents, 8 (or 21.62%) were of the opinion that virtues are necessary because it enables everyone to have liberty to do whatever they wished whereas 29 (or 78.38%) respondents had a contrary view. This shows a rejection of *laissez faire* attitude as it contributes to disorder and a negation of human flourishing. All the cardinal virtues come into play here. Nonetheless, those supporting this category are significant and should be brought on board through training.

Enables All to Strive to Achieve Their Best

Thirty four respondents (or 91.89%) were in favour of virtues because it enables all to strive to achieve their best while 3 respondents representing 8.11% of the participants thought differently. Again, as mentioned earlier in this chapter, virtues enable persons to achieve their *telos* and this should be every reasonable person's desire. Virtue training is needed, though, to enlighten those opposed so they can get a deeper understanding of virtue.

4.4.3 Succumbing to Pressure to Compromise on Training Standards

The respondents (instructors and managers) were asked whether they could yield to pressure from other quarters such as senior company management or peers to compromise on standards. All the respondents declined the proposition and Figure 4.14, below, depicts the various motivations for their position on the matter.

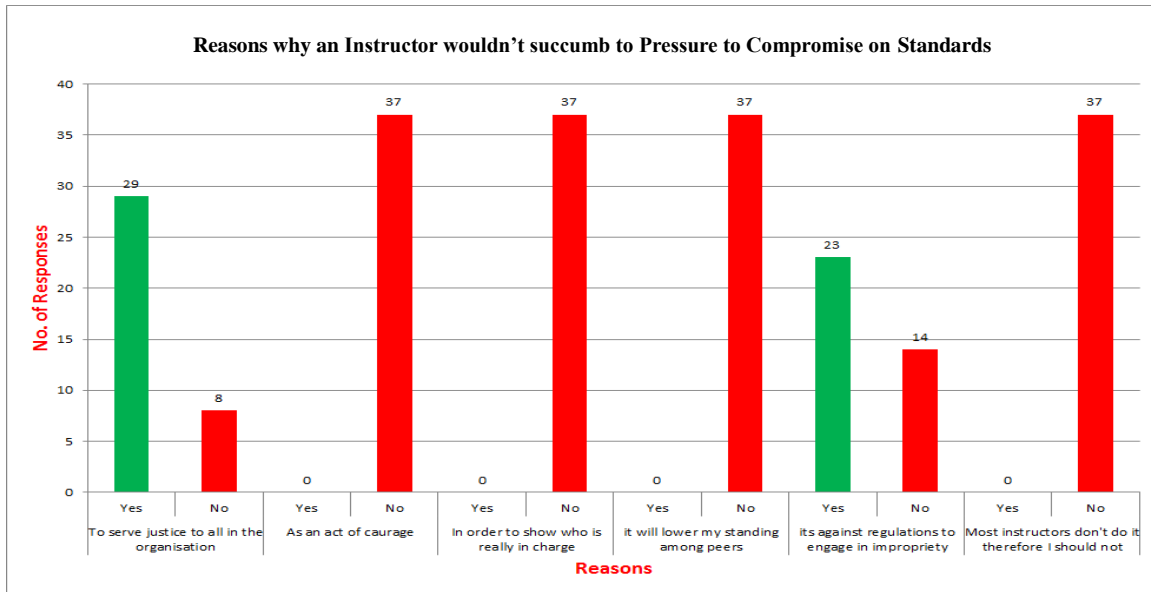


Figure 4.14: *Reasons why an Instructor wouldn't succumb to Pressure to Compromise on Standards*

To Serve Justice to All in the Organization

Twenty nine instructors and 3 managers representing 78.38% and 75.00% respectively indicated they would not succumb to pressure from any quarter to compromise standards in training in order to serve justice to all in the organization. Nearly 25.00% of instructors and managers thought serving justice to all in the organization is not a good motive for not yielding to pressure. The researcher found this interesting that nearly a quarter of the respondents did not think serving justice is an important motive. One instructor said that succumbing to pressure to compromise standards is “not only immoral but would eventually lead to loss of property and lives”.

As an Act of Courage

All the participating instructors and managers were against the suggestion that they would refuse to submit to pressure to compromise standards as an act of courage. The researcher found this response curious as no participant thought highly of the virtue courage. Perhaps, in the researcher's view, they (mis)understood the term courage to mean defiance of instructions (from their bosses) or entreaties from other quarters to assist struggling students. Virtue training could clarify such terms to the respondents.

In Order to Show Who is in Charge

Again, all participating instructors and managers would not yield to pressure to compromise standards in order just to show who is in charge. This is a demonstration of humility and a rejection of pomposity by the participants. Leaders are not interested in virtue as a kind of guarantee of moral superiority; they are interested in the good for its own sake (Havard, 2013).

It will Lower My Standing among Peers

In this category, yet again, all participants were of the view that lowering their standing among their peers is not a good motive to make them resist pressure to compromise standards in training. Humility/meekness and consequently fortitude is demonstrated here.

It is Against Regulations to Engage in Impropriety

Twenty three participating instructors (62.16%) were in agreement that they would not submit to pressure from any quarter to compromise standards because it is against regulations to engage in impropriety, while 14 (or 37.84%) thought that is not a good purpose for rejecting pressure to compromise standards. This shows that a substantial proportion of the instructors do not take regulations as strict guidelines towards excellence in training (perhaps affirming their preference for virtues over rules. *Epikeia* supplements the law in concrete situations that reflect extraordinary circumstances. Sometimes, to follow the letter of the law goes against the sense of justice and the common good, which the law implies). All participating managers affirmed this category.

Others don't do it Therefore I Should Not

All the participants were categorical they would not yield to pressure to compromise on training standards merely because others don't do it. This could be due to the training manual clearly stating that instructors should exercise their discretion ("KQ Operations Manual Part D version 2 (Rev 2)," 2011) and suggests courage because it begins when one allows her conscience to be formed through a sincere and genuine search for the truth while shunning political correctness. Justice as a virtue is also suggested since it behoves standing for moral truth even if it means contradicting political correctness. It would be worrying if the

participants rejected this category merely because others don't do it for it would suggest lack of courage.

4.4.4 Letting a Marginal Student Pass

The respondents were asked if for any reason they would let a marginal student pass. All managers interviewed were categorical they would not let a marginal student pass. Nonetheless, 2 managers interviewed added they could consider doing that “depending on the circumstances”, i.e., if the student has had a good track record but has been distracted by something which, in the view of the manager, she can overcome quickly—hinting at the virtue prudence and justice on their part.

Of the 37 participating instructors, 33 (89.19%) were against letting a marginal student pass while 4 (10.81%) would consider doing so. Figure 4.15, below depicts thus.

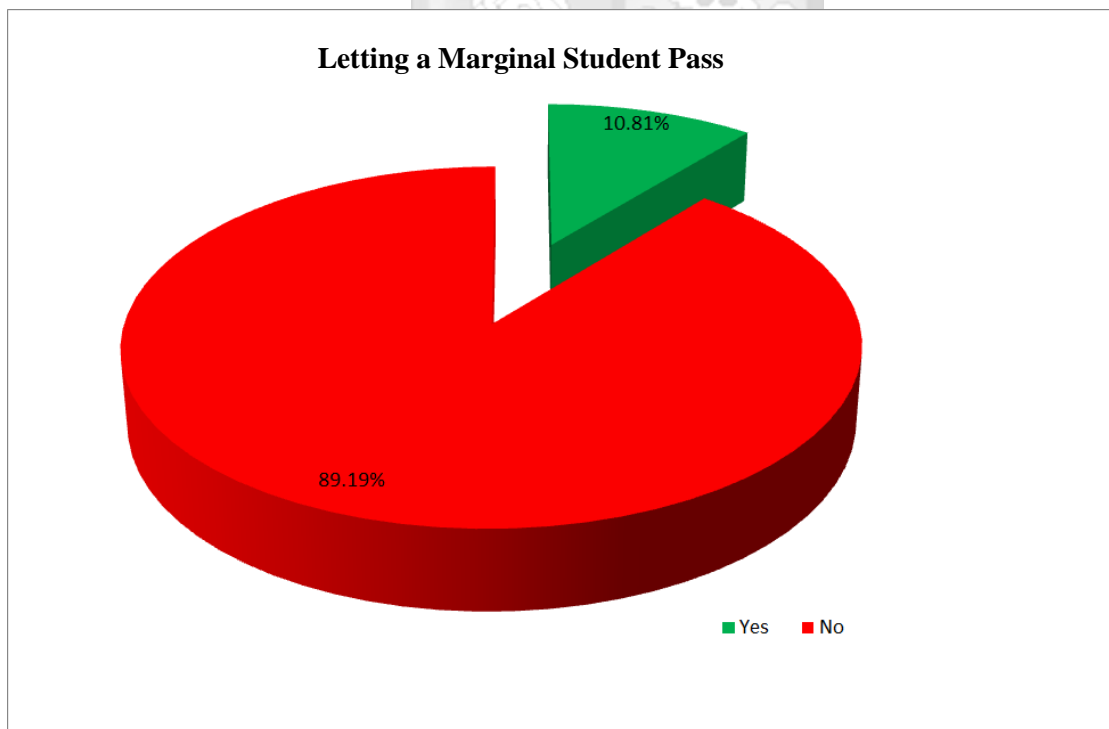


Figure 4.15: *Letting a Marginal Student Pass*

Figure 4.16, below, show the various motivations given by the instructors and managers as to why they made their choices regarding this matter.



Figure 4.16: *Why an Instructor would not let a Marginal Student Pass*

Belief in the Need to Maintain Standards

In this category, 29 (87.88%) of those who would not let a marginal student pass opined they would do so because of the need to maintain standards, whereas, 4 (12.12%) were of a contrary view. Maintenance of standards is key to safety and by supporting this proposition; a majority of the instructors and managers are indeed embracing or are inclined towards virtues. It is also worrying why the naysayers do not believe in the need to maintain standards.

As an Example to Other Trainees so they can Work Harder

All the 33 respondents who would not let a marginal student pass thought doing so ‘as an example to other students so as to make them work harder’ is not a good reason to motivate such a decision. By that, they are suggesting the virtues of prudence, justice and fortitude.

In Order to Comply with the Provisions of the Training Manual

Eighteen (54.55%) of the instructors would not let a marginal student pass because it is against the training manual whereas 15 (45.45%) of the respondents in the category thought compliance with the training Manual is not a good enough motive for them to take such a

position on the matter. The options here are nearly split in the middle and, in the researcher's view; those in the negative either disregard the training manual or have higher internal motivations for doing the good, over and above the regulations in the manual. This could either be virtuous (*epikeia*) or lack of it. For those in the affirmative, yes, it is good to follow the regulations except when a greater good needs to be done.

4.4.5 Virtues an Instructor would like to see in Students

The participating instructors were asked which virtues they thought were most useful for the trainees. Figure 4.17, below, shows how the participants responded to this question. Some options in the question were deemed redundant by the researcher and therefore did not warrant further analysis. The most preferred virtues were temperance where the respondents were asked to respond to a question favoring intemperance and all were unanimous that self-control is needed among students. Prudence and courage followed and justice was last. The researcher could not immediately explain the reasons why justice was given the lowest rating but opined that this could have been due to the fact that the trainees' low status in the pecking order at the training department leaves them with little or no ability to influence justice/injustice; thus affecting the respondents' choices regarding this matter.

Should Have Single-minded Focus on Training Even if it means Hurting Others

This option was set in reverse to elicit the virtue of temperance. By rejecting the option, the participants were endorsing self-control among the trainees as a virtue. All participants were unanimous against intemperance and injustice.

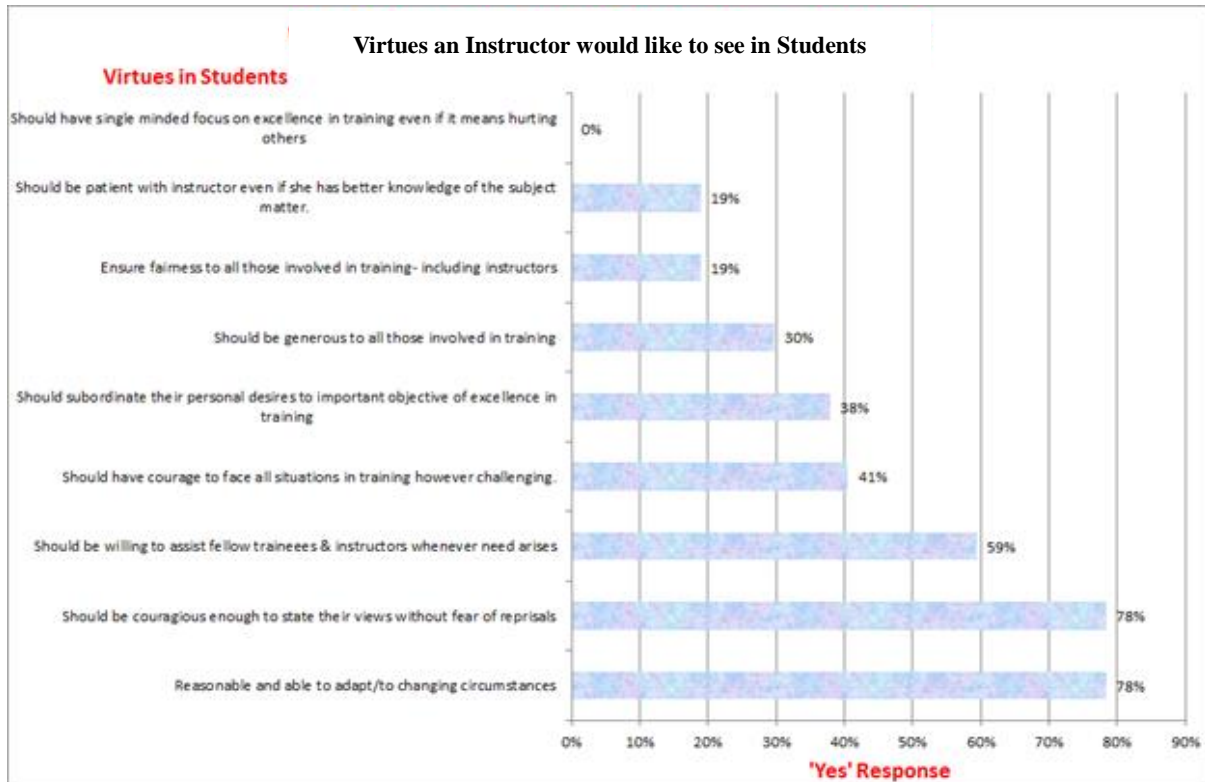


Figure 4.17: *Virtues an Instructor would like to see in Students*

Should be reasonable and able to Adapt to changing Circumstances

Seventy eight percent (78.00%) of the respondents preferred students who exhibit the virtue of prudence. This came out clearly when they (respondents) marked the option requiring their students to be reasonable and adaptive to changing environments.

Should be Courageous Enough to State their Views without Fear of Reprisals

As in the option immediately above, 78.00% of the participating instructors preferred students who are bold enough to state their opinions without fear of reprisals. This is an endorsement of the virtue courage.

Should Be Willing to Assist All Those Involved in Training Whenever Need Arises

Fifty nine percent (59.00%) of the respondents thought students should be willing to assist all those involved in training whenever need arises. Strictly speaking, this is an endorsement of the virtue charity which is theological but also leans towards justice due to its social disposition.

4.4.6 How Virtues Could be improved among Trainees

The participating instructors were asked to select the most suitable methods through which virtues could be improved among the pilot community. Figure 4.18, below, depicts the preferred methods as selected by the participants

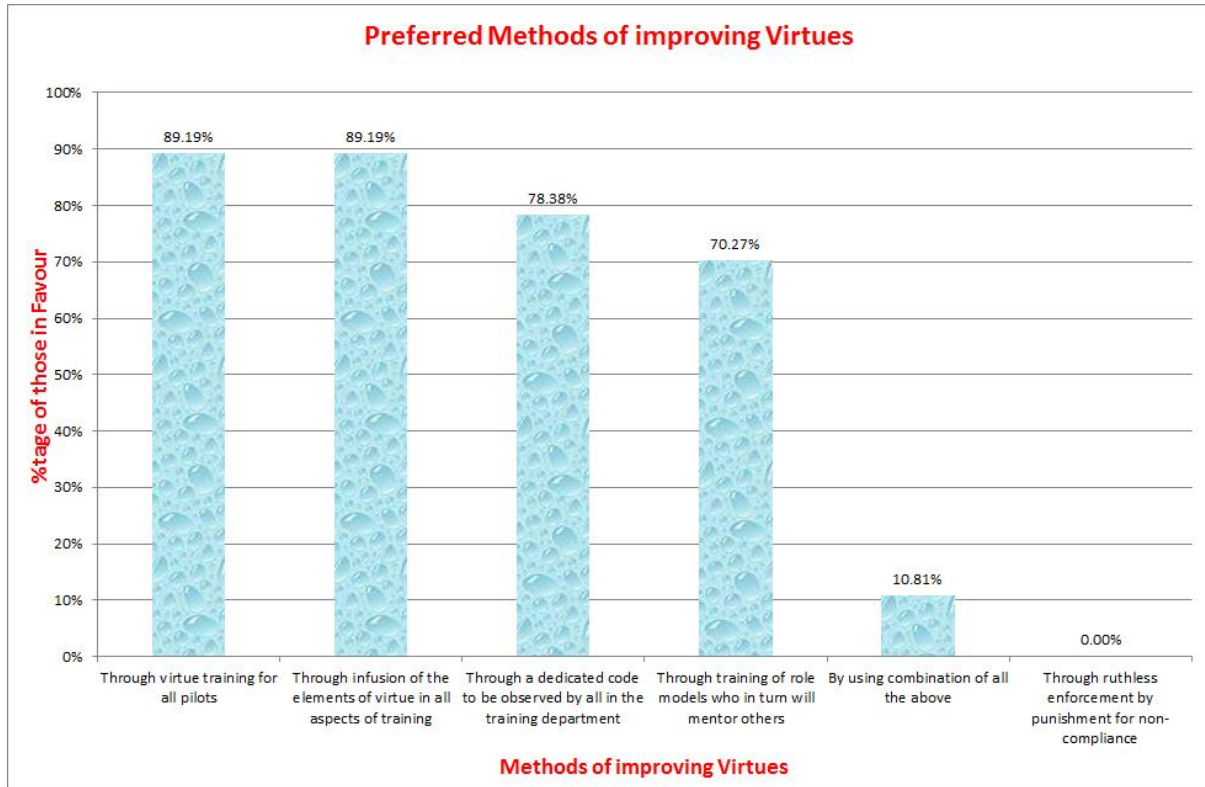


Figure 4.18: Preferred Methods of Improving Virtues

Nearly ninety percent (89.19%) of the participating instructors favored both virtue training for all pilots and infusion of the elements of virtue in all aspects of training. These two categories attracted the highest favor and they were followed by use of a dedicated code to be observed by all in the training department' which attracted 78.38% of the participants. Training of role models who will in turn mentor others attracted the favor of 70.27% of the participants. None of the respondents favored training in virtues through enforcement by punishment for non-compliance. Ruthlessness and punishment point towards lack of respect for human dignity and its rejection as a method of improving virtues is an endorsement of the virtues of prudence, justice, self-control and courage. Only 10.81% of the respondents were for the use of all the listed methods in the survey. This, according to the researcher, is due to the fact that all

participants, having endorsed the other given options, eschewed ruthless enforcement by punishment as a method of training in virtues; resulting in the low approval for this category.

4.5 Comparison of Findings between Students and Instructors/Managers

The study revealed that students and instructors/managers had a fairly similar distribution in the virtues of prudence, justice, fortitude, and temperance with minor variations. On the question on whether virtues matter in pilot training, all students and instructors were in the affirmative, though with minor variances in distribution of the motivating factors. On the question on which virtues are preferred by those involved in pilot training, all the virtues were preferred, though the order of preference was different as instructors/managers preferred temperance followed by prudence and courage while justice was last in that order among their students; whereas the students preferred the virtues of prudence, justice, courage, and temperance in that order among instructors/managers. Lastly, both the students and instructors/managers preferred virtue training for all pilots, infusion of elements of virtue in all aspects of training, use of a dedicated code to be observed by all involved in training, and through mentoring (though with minor variations in distribution) while both groups shunned use of ruthless enforcement as a method of improving virtues.

4.6 Conclusions

This chapter analyzed the findings of the research. The study found that the responses from both categories of respondents suggested that all respondents would like virtues in training; some virtues exist in pilot training though with some variations in the distribution but also indicated that some vices do indeed exist. It would be good if virtue training is conducted among the pilots in order to fill these gaps. Both categories prefer all the cardinal virtues but the order of preference differ between them. Both categories of respondents also prefer virtue training through classroom training, infusion in all aspects of training, mentorship, and training of role models who would in turn who would in turn mentor others, but not through ruthless enforcement by punishment.

CHAPTER FIVE

DISCUSSION

5.1 Introduction

This chapter attempts to give philosophical underpinnings of the answers to the three research questions and then compares it with the findings of the research to confirm the validity of the method used. In order to do that, it begins with a deeper explanation of virtue, then looks at the research questions and how the reviewed literature impacts it. The findings from the reviewed literature seem to support the findings from the research thereby validating the method used by the researcher.

5.2 More on Virtue

In order to understand virtue more fully, we need to describe it: “In general terms, virtue can be defined as a good operative habit” (Aquinas, *S.T. I-II*, q. 55, a. 3). An operative habit is a stable disposition of a human faculty (the intellect, the will, and the sensible appetites), through which it is well or poorly structured regarding the actions proper to it. Aristotle considers virtue as that which renders good its possessor and his work (Aristotle, *Nicomachean Ethics*, II, 6: 1106 a 15ff). It is the strength of character to continually direct one’s will towards doing of the good. Virtues are distinguished as supernatural (received from God as a gift of grace) and human virtues (acquired by man through his own exercise and personal effort). These acquired virtues form the subject of this inquiry. The human virtues are either intellectual or moral. The intellectual virtues pertain to reason and perfect it in both practical and speculative facets. The Moral virtues, principally consisting of the cardinal virtues (etymologically, cardinal is from Latin *Cardo* meaning hinge as all the other virtues are hinged around them (Archdiocese of Saint Paul & Minneapolis, 2014) i.e., prudence (of the mind), justice (social virtue of the will), fortitude (of the aggressive passions), and temperance (of the pleasure seeking passions) perfect the will and tendencies (Colom & Rodríguez Luño, 2014).

Michalak (2015) describes the cardinal virtues thus:

- Prudence: The most important virtue that enables us to act wisely in choosing the best good thing in every circumstance. It perfects intellect for informing the will what needs to be done well here and now.
- Justice: This virtue enables us to be fair and responsible to all, giving each her due good. It perfects the will to do what is due.
- Fortitude: Enables us to be firm and to face our fears of danger and difficulty. It perfects the will for ordering passions in response to difficulty.
- Temperance: Enables us to act with self-control, right order, and moderation in use of all good pleasing things. It perfects the will for ordering passions in response to what is pleasing.

Vices (or negative virtue) are also habits, but the result of neglect, not effort. It is much easier to acquire a vice than a virtue. Vice hinders the contemplation of truth and the doing of good (Borruso, 2008). Habits, whether virtuous or vicious, result from repetition. Human virtues are acquired by education, by deliberate acts and by a perseverance ever-renewed in repeated efforts and are purified and elevated, they forge character and give facility in the practice of the good—making a virtuous man happy to practice them (Michalak, 2015). To acquire virtue, one needs to aim at knowing and understanding the natural principles of human behavior, not at adapting human behavior to pre-conceived ideology. A virtuous person is capable, for example, of not eating something tasty that isn't good for her, or working when tired, or not getting upset over a trifle (Lorde, 2010). Those without virtues are however less able to act as they wish, they may decide but fail to carry out what they decide.

The method consists of reconciling apparent opposites since virtue is half-way between two vices, one by excess and the other by defect. For instance, gullibility is a vice contrary to stubbornness which is the opposite vice; both vices contradict docility, the virtue in between the two. Prudence is needed if a person is to carry through impulses and instincts for right acting, purify naturally good dispositions and make them into real virtue. Prudence, therefore,

is the “*measure*” of justice, of fortitude, of temperance (Pieper, 1965).

5.3 Why Virtue is needed in pilot Training

Air transport, and particularly piloting, is heavily regulated: there are international laws, country laws, company procedures, operating manuals, etc. Law, says Aquinas, is given for the purpose of directing human acts and in so far as human acts conduce to virtue, the law makes man good (Aquinas, *ST I-II*, q. 92, a 1 ad 1). The aviation industry trend has been to keep adding new regulations in an attempt to improve safety in order to reduce repeat accidents. A good example of this is the case of re-enforced cockpit doors. After terrorists hijacked passenger aeroplanes and flew them into, the World Trade Center (among other buildings) on the 11th of September 2001, changes were made to the regulations governing the security of cockpits in an effort to make hijackings more difficult (de Castella, 2015). Cockpit doors that are stronger and equipped with a locking system that only grants access if the pilot inside permits, were made mandatory for commercial passenger aircraft by regulations. This was aimed at preventing terrorists from gaining access to the flight deck. While the regulation was well intended to improve safety, it has resulted in several catastrophic events, key among them are: 1) Germanwings Flight 9525 in which the first officer denied entry to the captain as he hurtled the aeroplane to the ground in an apparent suicide, resulting in total hull loss; and 2) LAM Mozambique Airlines flight TM 470 crash on November 29th 2013 in which the captain locked himself in the cockpit and denied access to the co-pilot then diving the ill-fated plane to the ground killing all aboard (Ensor, 2013). These and more examples show that regulations alone are hollow without virtues.

Also, humans cannot comply with too many regulations—virtue enables us to internalize and observe regulations from the inside with ease. Virtue ethics directs us towards ideals such as excellence or dedication to the common good, towards which we should all strive and which allows the full development of humanity (Velasquez et al., 1988).

As discussed in chapter 2 of this document, Helmreich & Taggart (1995) found a disturbing

slippage in the acceptance of basic concepts of CRM, even with recurrent training. The fact that crews can exhibit effective crew coordination while being evaluated under jeopardy conditions does not mean they practice these concepts during normal line operations. Virtues, particularly obedience, *epikeia*, and prudence can help internalize the usefulness of CRM and the benefits of complying with its tenets, thereby making pilots better at it. Also, as has been mentioned above, elements of CRM fall within the ambit of virtue; and, CRM has helped reduce accidents by making pilots work better together to enhance error management leading to efficiency in training and line operations. Hence virtue improves efficiency in training and quality of pilots and is therefore necessary in pilot training.

In chapter 2, Gladwell (2008) mentioned that Boeing published data showing a relationship between a country's plane crashes and its national culture (character) with respect to power distance. Courage among the junior pilots, just like humility among the senior ones, can reduce the power gradient in the flight deck thus augmenting error management and hence improving safety.

In chapter 1, Learmount (2013) cited Airbus' Senior Director of Flight Training Policy, Captain Michael Varney as saying "bad instruction can be disastrous [...]. Pilots quizzed about their instructors frequently use adjectives such as 'aggressive, abusive, intimidating' with accusations that they 'leave the students guessing'" and that "'firehosing' students with information is pointless but easy to do". These remarks indicate that vices are present in some training cases and inculcation of virtues can remedy the situation, e.g., kindness vs. "aggressive"; respectful vs. "abusive"; justice vs. "intimidating"; clarity of expression vs. "leave the student guessing"; and timeliness vs. "firehosing". By overcoming such vices in training, the necessary yet elusive efficiency and quality can be achieved.

In chapter 2 of this study, LaMarr & Homan (1999) state that pilots and airlines became safety minded for self-serving reasons: pilots because of their own safety and airlines because of bad

publicity and costs ensuing from lawsuits resulting from accidents. The virtuous pilots would see the need for filling ASRs without coercion or fearing the consequences of non-compliance. If filling ASRs by pilots helps to improve flight safety, and virtuous pilots fill ASRs without any difficulty, therefore, virtues are not only good for pilot training but for all facets of the piloting profession.

In *Parts of Animals*, Aristotle says “generation is for the sake of substance, not substance for the sake of generation” (Aristotle, *PA*, 640 a 18-19). This means that the proper way to explain the generation of an organism like an animal or the formation of its parts is by reference to the product that lies at the end of the process. Similarly, pilot training requirements ought to be ordered towards getting good quality pilots and hence safe flight operations which is its *telos*. Virtue aligns a person’s actions towards the realization of her *telos*; therefore the need for virtues in pilot training is self-evident (all respondents in the study supported this assertion).

5.4 Virtues preferred by Pilots in Training

From the responses to the questions administered, all the four cardinal virtues were preferred by the respondents. The order of preference was different, though, between students and instructors/managers. The instructors/managers preferred temperance followed by prudence and courage while justice last in that order among their students; whereas the students preferred the virtues of prudence, justice, courage, and temperance in that order among instructors/managers. A close look at the preferences suggest that instructors/managers, as a priority, would like students to inculcate self-control by shunning the good pleasing things in life and concentrate on training while they consider justice last perhaps because the students have very little influence on justice due to their low position in the pecking order at the training department. For the students, prudence among instructors is given priority as the students believe a good instructor must be able to make good and timely decisions, followed by justice and courage while self-control is considered last.

That all the cardinal virtues are preferred is due to the fact that virtues are intertwined, i.e., one

virtue cannot exist exclusively without the others. McNerny (1999) cites Aquinas thus:

Things which are not distinct ought not to be numbered separately, since distinction is the cause of number, as Damascene says. But the virtues mentioned are not distinguished from one another, for Gregory says in the *Morals on Job* 22: Unless prudence is just and temperate and brave, it is not true prudence, nor is there perfect temperance which is not brave, just, and prudent, nor complete fortitude which is not prudent, temperate and just, nor true justice which is not prudent, brave and temperate.

It is therefore not possible to prefer a particular virtue at the exclusion of others and remain virtuous.

5.5 How Virtues can be implemented in a Pilot Training Scheme

Having agreed that virtues are indeed good and necessary for a pilot at work, we may now ask: can virtues be taught? Philosophers have doubted that virtue can be taught. The Sophists, however, claimed to be teachers of virtue (Protagoras, Aristophanes, Isocrates, etc.) while Socrates had his doubts because "... if we could find teachers of virtue, we might be able to teach it, but, as we cannot find teachers, virtue cannot be taught" (Plato, *Meno* 80-85). Aristotle says virtue is fundamentally a matter of character which, once formed, consists of: (1) intellectual virtue which is peculiar to humans but impossible without (2) sound character (moral virtues). Moral virtue is learned by repetition or acquired, if at all, at a very early age, meaning instructors, managers and senior pilots have a part to play in mentoring their juniors and students. This is similar to parents' role in mentoring their children through their own good habits and by rewarding the right actions and punishing the wrong ones so the children do not find pleasure in them (junior pilots with good character can also mentor their seniors). Intellectual virtue can be taught and is the proper concern of schools (Curtler, 1994) . Also, as Aquinas says: "it is not always through the perfect goodness of virtue that one obeys the law, but sometimes it is through fear of punishment, and sometimes from the mere dictate of reason, which is a kind of virtue" (Aquinas, *ST I-II*. q. 92. a. ad 2). Thus, if virtue can be an effect of law, then the law must be able to be obeyed because of some principle other than virtue, i.e., if law is to effect virtue it must do so in those who do not already possess virtue. Thus, the need to have good regulations and codes is imperative. This study considers that virtue can be taught in

classrooms typically through case studies of the consequences of unethical behavior (Benton, 1995) and by learning from theoretical works of moral philosophers and theorists (“Moral Reasoning,” 2014). Benton (1995) further suggests that to encourage reflective thinking, faculty heads should make students aware of the total impact of the decisions they make. The most effective way of addressing it is by introducing the topic of ethical (virtuous) behavior in every course across the curriculum. Virtues can also be learnt through mentorship and through good regulations and codes to not only pilots but to all persons.

The research findings also revealed that among the instructors and managers, 89.19% preferred virtues to be improved through virtue training for all pilots and a similar number (89.19%) wanted it done through infusion of elements of virtue in all aspects of training. 78.38% wanted a dedicated code to be observed by all in the training department and 70.27% were for training of role models who would in turn mentor the others. None of the participating instructors/managers (0.00%) preferred the use of ruthless enforcement by punishment as method of improving virtues. Responses from the students on the same took a similar pattern as that of the instructors. The first four options offer a viable combination which together can help improve virtues among the pilots.

Pilots joining the airlines ought to be taken through a comprehensive virtue training (classroom) at the earliest opportunity and be taught by virtuous instructors (mentoring). Having been taught virtue at the joining stage, mentoring during line operations and annual refresher training should be conducted with feedback from students recorded to monitor its absorption and retention i.e., are the pilots living it? (Though outside the scope of this study, the researcher proposes that virtue training should form part of the curriculum for ab-initio pilot training as it needs to be introduced at the most basic level).

5.6 What One Ought to Do to Remain Virtuous

As has been explained in this study, virtue is acquired and perfected through repetition of virtuous acts until it becomes second-nature to the agent, i.e., performed with ease. Also,

virtues diminish and are lost through the performance of acts contrary to them. Two contrary forms e.g., temperance and intemperance cannot co-exist in the same faculty, as such “... the prolonged absence of virtuous acts can also occasion the debilitation or even loss of virtue” (Rodríguez Luño 2014 p. 199). If the effort to reorder the powers according to the dictates of right reason is not constant, acts will necessarily arise which are opposed to them, on account of the instinctive movements which the sensitive tendencies preserve. Therefore, the need to continuously perform virtuous acts is paramount in order to remain virtuous.

Regulations and codes if conspicuously displayed can be a constant reminder to be virtuous. Similarly, choosing good (virtuous) friends can go a long way in infecting a person with virtues. Kahneman (2012) asserts that ubiquity of something can prime our thinking towards that object or idea, in this case virtues. Daniel Kahneman further adds that repeated experience, clear display, primed idea, and a good mood causes what he calls cognitive ease which makes an idea feel familiar, true, good, and effortless. We could also borrow from the Abrahamic faithful who express their commitment to their faiths through frequent prayer. Taking a moment every morning to make a personal commitment to be virtuous in the day ahead can help, just as taking a moment before going to bed in the evening to reflect on the activities of the ending day by evaluating our actions and analyzing what we could have done better and making a solemn vow to atone.

5.7 Conclusions

The findings of this study suggest that a good proportion of pilots practice some elements of virtue though more needs to be done to improve it. Training in virtues can bridge the gap. The implementation of these findings may at first prove problematic in the light that airlines feel burdened by costs and as such may not be willing to take up additional expenses. However, the policymakers need to understand that the savings for the airlines are expected to be enormous in the fullness of time as virtuous pilots will not only cost less to train but will be more competent and hence safer.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter presents the summary of the research findings and conclusions derived from the study and recommendations. It also gives suggestions for further research.

6.2 Summary of the study

The overall purpose of this research was to highlight the lack, or presence thereof, of virtues in pilot training and to find out how the infusion of Aristotelian virtues in training of pilots can enhance training and help achieve efficiency and better quality airline pilots and consequently safer flight operations. This is because infusion of virtues in training will, *inter alia*, ensure self-regulation, self-reporting by pilots, standardization in training, virtuous instructors as discussed in Chapter 5 of this document, and pilots capable of effectively dealing with everyday ethical issues at the workplace consequently reducing the FDMS trigger events. Kenya Airways was used as a case study.

The research was guided by the following research questions: Do the people involved in pilot training consider that virtues are necessary for a pilot at work? Which virtues do those involved in training of pilots consider to be necessary for a pilot at work? And how could these virtues be incorporated in a pilot training scheme? The study was guided by Aristotelian virtue theory.

The researcher reviewed related literature in relation to virtues in pilot training in airlines. The reviewed literature found that no studies have been conducted on whether virtues can enhance or diminish pilot training in airlines. Also, the literature reviewed showed there are lapses in compliance with procedures which are attributable to lack of virtues among some pilots (Learmount, 2013; FAA, 1995; Helmreich et al., 1999).

Whereas the study was solely conducted in Kenya Airways, the findings can be applied to all airlines since they are all governed by similar regulations besides operating in a comparable environment.

The analysis of the data enabled the researcher to come up with findings based on the three research questions, namely:

1. Do the people involved in pilot training consider that virtues are necessary for a pilot at work? The study findings from the respondents indicated that all of the participants (100.00%) i.e., students, instructors and managers, thought virtues matter in pilot training. The study found no major deviation in responses due to age and/or gender among the respondents and did not delve into further analysis along those lines. The research findings and reviewed literature, as discussed in chapter 5 of this document, found the need for virtues in pilot training to be self-evident.
2. Which virtues do those involved in training of pilots consider to be necessary for a pilot at work? The data analysed revealed the student respondents preferring the virtues prudence, justice, courage, and temperance among their instructors in that order while instructors preferred self-control, prudence, courage and justice in that order among their students. From the research findings and the literature reviewed as discussed in chapter 5 of this document, virtues are intertwined and as such, one virtue cannot exist without others; therefore all the cardinal virtues are necessary in pilot training.
3. How could these virtues be incorporated in a pilot training scheme? The data also revealed that among the instructors and managers, 89.19% preferred virtues to be improved through virtue training for all pilots and a similar number (89.19%) wanted it done through infusion of elements of virtue in all aspects of training. 78.38% wanted a dedicated code to be observed by all in the training department and 70.27% were for training of role models who would in turn mentor the others. None of the participating

instructors/managers (0.00%) preferred the use of ruthless enforcement by punishment as method of improving virtues. Responses from the students on the same took a similar pattern as that of the instructors. The first four options offer a viable combination which together can help improve virtues among the pilots.

6.3 Conclusions

On the basis of the findings, the study concluded that all those concerned with training of pilots consider virtues to be necessary for a pilot at work. Some of the benefits of virtues identified by the study include but not limited to: virtuous instructors/managers and students leading to reduced training time and costs (efficiency), a good reporting culture, good CRM practices by pilots, compliance with regulatory requirements, consequently good quality pilots capable of dealing with everyday ethical issues on and off the job, happiness among the pilots, and a better working environment.

The study also concluded that all the cardinal virtues are favored by those in training. The order of preference for the virtues differ between instructors/managers and students for obvious reasons.

The study further concluded that virtues could be incorporated in a pilot training scheme through virtue training for all pilots, infusion of the elements of virtue in all aspects of training, through training of role models who would in turn mentor others, and through a dedicated code of conduct to be observed by all those involved.

6.4 Recommendations

Based on the findings, the study came up with the following recommendations: Aviation regulators such as ICAO should adopt virtue training and make it mandatory for all airline pilots (indeed all pilots) by monitoring compliance by airlines.

Senior management in airlines should make character a key criterion for selection of instructors

over and above other competencies, i.e., technical skill are necessary but are not sufficient as a criteria for selection of instructors since technical skills can be directed towards evil purposes. Virtue training should not only be made mandatory for pilots but to all airline staff as each and every one of them contribute in their own way, however small, towards the enhancement of pilot training and consequently greater efficiency through happiness and better working relationships hence maximization of safety and shareholder value.

Curriculum developers should be consulted to merge virtue training with CRM training since, from the findings, the elements of CRM fall within the ambit of virtues.

A dedicated code highlighting virtues should be made available not only as pre-ambles of all training manuals, but conspicuously displayed on the walls in the training areas. This should also be extended to other departments in the airline by developing suitable codes relevant to them.

A reward system based on virtuous behavior should be introduced to encourage virtues not only among pilots in training but to all airline staff.

6.5 Suggestions for Further research

The following issue emerged from the research and was suggested for further investigation:

1. How airlines and regulators can monitor compliance with the tenets of Aristotelian virtues among pilots in training and in line operations.

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APPENDICES

Appendix I: Letter for Participants

Arodi Justus
C/o Strathmore University
Ole Sangale Road, P, O, Box 59857 – 00200
City Square, Nairobi, Kenya

Dear Participant,

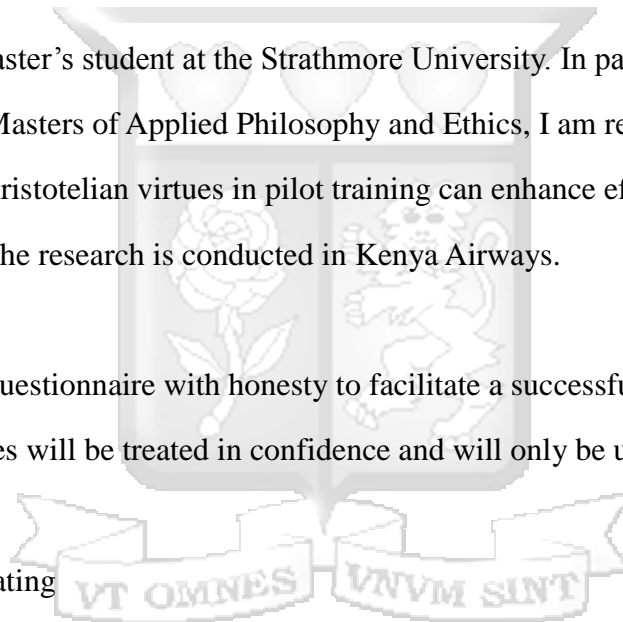
The researcher is a Master's student at the Strathmore University. In partial fulfilment for the award of a degree in Masters of Applied Philosophy and Ethics, I am required to conduct a research on whether Aristotelian virtues in pilot training can enhance efficiency and consequently safety. The research is conducted in Kenya Airways.

Kindly complete the questionnaire with honesty to facilitate a successful completion of the research. The responses will be treated in confidence and will only be used for research purposes.

Thank you for cooperating

Yours sincerely,

Arodi Justus



Appendix II (a): Ethics Questionnaire for Trainees

Thank you for taking your valuable time to complete this questionnaire – which should take only a few minutes to fill in. It is part of a research on ethics. The topic is the practice of virtues – a basic moral concept formulated philosophically by the ancient Greek, and highly valued in the Judeo-Christian-Islamic tradition. The basic virtues are prudence, justice, fortitude, and temperance. Virtue ethics is a broad term for theories that emphasize the role of character in moral philosophy rather than doing one's duty or acting in order to bring about good consequences.

This research is purely academic and its focus is to identify the virtues needed in a pilot training department of an airline – with KQ as a case study. The information you give here will be treated as confidential and will strictly be used for the research purpose only. Kindly mark the most suitable box(es) next to each response; if a suitable response is not available, please briefly explain your suggested response in the blank spaces provided.

Gender: Female Male

Stage of training: Ground school training Simulator Training Line

Training Mentorship

Question 1

a) Do you think virtues matter in pilot training?

Yes

No

b) If yes, what are the reason(s) (*tick all that apply*)

It creates a level field for all concerned

It enables adherence to the set regulations

- It ensures single minded pursuit of organizational goal, i.e., excellence in training
- It covers the interests of the majority
- It offers advantage to the weaker members of the organization
- Every human being ought to respect another
- It enables all to have liberty to do whatever they wish
- It enables all to strive to achieve their best

Any other, please explain:

.....

.....

c) If no, what are the reasons? *(Tick all that apply)*

- Everyone should do whatever is possible within their means to finish training
- Technical competence has no relationship with virtues
- Virtues will bring me undue competition by leveling the playing field
- Virtues have no room as long as the majority is happy
- Rules and regulations alone should be sufficient without ethics
- Any other, please explain:

.....

.....

Question 2

a) Do you prefer some instructors over others?

Yes

No

b) If yes, why?

Because they are forgiving

Because they don't mince words; they tell me the truth about my performance

Because they communicate well

They are from the same community as myself

They have superior technical knowledge

Any other reason, please explain:

.....

.....



c) If no, why?

It does not matter how I feel, things always remain the same

They are expected to have met the same quality standards

I should be courageous enough to face any kind of challenge

My preferences may interfere with other trainees

Any other, please explain:

.....
.....

Question 3

a) When scheduled for training/check with an instructor you do not like, can you consider taking steps to avoid her/him?

Yes

No

b) If yes, what steps would you take? (*tick all that apply*)

Calling in sick even though you were not sick

Asking crew scheduling to reassign you a different instructor

Asking a colleague to swop training slots with you

Any other, please explain:

.....
.....

c) If no, why?

As reasonable being, it is my responsibility to learn to cope with everyone, including those I do not like

I will be unfair since somebody else will still be scheduled to fly with her

My preferences should not interfere with the organization

- I should be courageous enough to face anyone without fear
- I should not brand anyone bad; it is probably my fault that I don't like some people

Any other, please explain:

.....

.....

Question 4

a) If you are planned for a training/check flight on a difficult route, would you have the courage to continue with it?

- Yes
- No

b) If yes, what would be your motivator? *(tick all that apply)*

- Belief in my ability to overcome any obstacles
- In all fairness, someone must do the flight
- As a learning experience I must be ready for any eventuality
- As an example to other students; it is good to be courageous

Any other, please explain:

.....

c) If no, why? *(Tick all that apply)*

- My weaknesses may be detected by the instructor and may slow down my progress
- It may tire me out hence exposing my weakness and slowing my progress

Any other, please explain:

.....

.....

Question 5

What virtues would you like to see in your instructors?

- Should be reasonable and able to adapt/adjust to the changing circumstances
- Should be able to ensure fairness to all those involved in training – including weak students
- Should have the courage to face all situations in training, however challenging
- Should subordinate their personal desires/problems to the important objective of excellence in training
- Should be courageous enough to state their views without fear of reprisals
- Should be generous to all those involved in training
- Should be willing to assist fellow instructors and trainees whenever need arises
- Should have single minded focus on excellence in training even if it means hurting others

- Should be patient with the student, even if she has better knowledge of the subject matter

Any other, please explain:

.....
.....

Question 6

a) If you (pilot trainee) were to come across any misconduct at the training center/ simulator or on training flight, will you be willing to report it?

- Yes
 No

b) If yes, what are your reasons for reporting? (*Tick all that apply*)

- It is my responsibility to ensure that training is conducted well
- Training must be conducted fairly to all, even if am personally not affected
- It is reasonable for any well-meaning person to act against vices
- It is in the interest of the organization and consequently all employees that training is conducted well
- My conscience will be disturbed if I don't report

Any other, please explain:

.....
.....

If no, what reason(s) will make you not report? *(tick all that apply)*

- Fear of reprisals/victimization
- Belief that nothing will be done by management to change the situation
- I should just shut up and concern myself with my training
- I should not be worried if the majority is happy

Any other, please explain:

.....

.....

Question 7

How can virtues be incorporated into the pilot training department?

Kindly put a mark (X) according to your level of agreement or disagreement.

Key: **SD** – Strongly disagree = 1; **D** – Disagree = 2; **U** – Undecided =3; **A** – Agree = 4;

SA – Strongly agree = 5.

Options for introducing virtues to pilot training	SD	D	U	A	SA
Through virtue training for all pilots					
Through infusion of the elements of virtue into all aspects of training					
Through training of role models who in turn will mentor the					

others					
Through ruthless enforcement by punishment for non-compliance					
Through a dedicated code to be observed by all in the training department					
By using a combination of all the above					



Appendix II (b): Ethics Questionnaire for Instructors/Managers

Thank you for taking your valuable time to complete this questionnaire – which should take only a few minutes to fill in. It is part of a research on ethics. The topic is the practice of virtues – a basic moral concept formulated philosophically by the ancient Greek, and highly valued in the Judeo-Christian-Islamic tradition. The basic virtues are prudence, justice, fortitude, and temperance. Virtue ethics is a broad term for theories that emphasize the role of character in moral philosophy rather than doing one’s duty or acting in order to bring about good consequences.

This research is purely academic and its focus is to identify the virtues needed in a training program of an airline – with KQ as a case study. The information you give here will be treated as confidential and will strictly be used for the research purpose only. Kindly mark the most suitable box(es) next to each response; if a suitable response is not available, please briefly explain your suggested response in the blank spaces provided.

Gender: Female Male

Position: Manager Instructor

Stage of training: Ground school training Simulator Training Line
Training Mentorship

Question 1

a) Do you think virtues matter in the activity of training pilots?

Yes

No

b) If yes, what are the reason(s) (*tick all that apply*)

- It creates a level field for all concerned
- It enables adherence to the set regulations
- It ensures single minded pursuit of organizational goal, i.e., excellence in training
- It covers the interests of the majority
- It offers advantage to the weaker members of the organization
- Every human being ought to respect another
- It enables all to have liberty to do whatever they wish
- It enables all to strive to achieve their best

Any other, discuss:

.....

.....



c) If no, what are the reasons? (*Tick all that apply*)

- Everyone should do whatever is possible within their means to finish training
- Technical competence has no relationship with virtues
- Virtues will bring me undue competition by leveling the playing field
- Virtues has no room as long as the majority is happy
- Rules and regulations alone should be sufficient without ethics

Any other, please explain:

.....
.....

Question 2

Would you succumb to pressure from other quarters to compromise standards in order to please someone?

Yes

No

a) If yes, why? *(tick all that apply)*

Keeping your job

Meeting financial obligations

Financial stability & success of your company

Advancing your career

Meeting performance goals

Saving other people's jobs

Supervisor's pressure

Demands from senior executives

Any other, please explain

.....



b) If no, why?

- To serve justice to all in the organization
- As an act of courage
- In order to show who is really in charge
- It will lower my standing among peers
- It is against regulations to engage in impropriety
- Most instructors do not do it therefore I should not

Any other, please explain:

.....

.....

Question 3

a) Would you let a marginal student pass?

- Yes
- No

b) If yes why? (*tick all that apply*)

- Because she is from my community
- Her failure will be a reflection of my weakness as an instructor
- I want to be regarded as a good and forgiving instructor

- I do not want to make enemies
- The need to meet the target of pilots as set by the company
- If am instructed by my seniors to do so

Any other reason, explain:

.....

.....

If no, why? *(Tick all that apply)*

- Belief in the need to maintain standards
- As an example to the other trainees so they can work harder
- In order to follow provisions of the Operations Manual

Any other, please explain:

.....

.....

Question 4

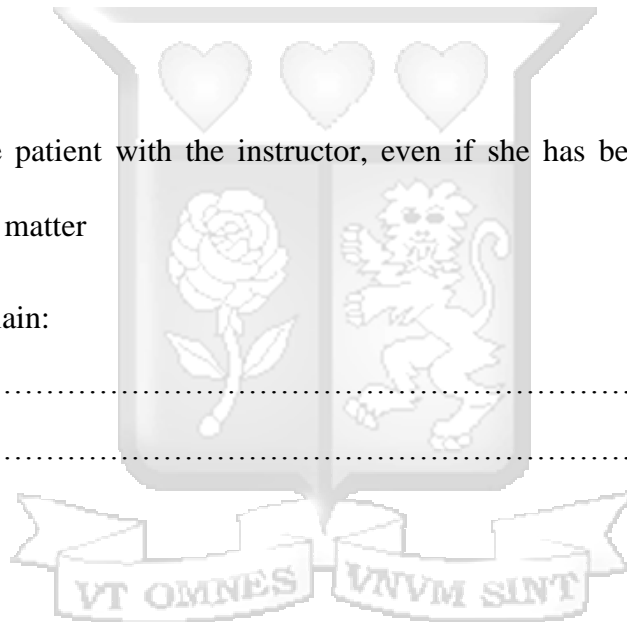
What virtues would you like to see in your trainees?

- Should be reasonable and able to adapt/adjust to the changing circumstances
- Should be able to ensure fairness to all those involved in training – including instructors
- Should have the courage to face all situations in training, however challenging

- Should subordinate their personal/problems desires to the important objective of excellence in training
- Should be courageous enough to state their views without fear of reprisals
- Should be generous to all those involved in training
- Should be willing to assist fellow trainees and instructors whenever need arises
- Should have single minded focus on excellence in training even if it means hurting others
- Should be patient with the instructor, even if she has better knowledge of the subject matter

Any other, please explain:

.....
.....



Question 5

How can virtues be incorporated into the pilot training department?

Kindly put a mark (X) according to your level of agreement or disagreement.

Key: **SD** – Strongly disagree = 1; **D** – Disagree = 2; **U** – Undecided =3; **A** – Agree = 4;

SA – Strongly agree = 5.

Options for introducing virtues to pilot training	SD	D	U	A	SA
Through virtue training for all pilots					
Through infusion of the elements of virtue into all aspects of training					
Through training of role models who in turn will mentor the others					
Through ruthless enforcement by punishment for non-compliance					
Through a dedicated code to be observed by all in the training department					
By using a combination of all the above					

Appendix II (c): Interview Guide for Students

1. What steps do you take to ensure you excel in training and hence your career as a pilot?
2. What actions do you take to enable instructors and the management to achieve excellence in training?
3. What steps do you take to ensure your personal desires do not interfere with your fellow students and/or instructors?
4. How would you deal with misconduct, should you come across it during training?
5. How would you react when you detect flaws in the training documents or in instructions given by a manager or instructor?
6. What steps do you take to ensure fairness to all concerned in the training department (fellow students, instructors and managers)?
7. What challenges regarding instructors/managers and documents/policies do you often encounter during training?
8. What suggestions would you make to the management of training to help achieve excellence in training?

Appendix II (d): Interview Guide for Instructors and Managers

1. What steps do you take to ensure you excel in training and hence the piloting profession?
2. What actions do you take to make it easy to enable students to achieve excellence in training?
3. What steps do you take to ensure your personal desires do not interfere with your fellow instructors and students?
4. How would you deal with misconduct, should you come across it during training?
5. How would you react when you detect flaws in the training documents or in instructions given by a manager or another instructor?
6. What steps do you take to ensure fairness to all concerned in the training department (fellow instructors, students and managers)?
7. What challenges regarding students, fellow instructors/managers and documents/policies do you often encounter during training?
8. What suggestions would you make to the management of training or to senior airline management to help achieve the highest level of excellence in training?

Appendix III: Authority from the Employer



27th December 2014.

REF: OA/400/2014.

Strathmore University,

P.O. BOX 59857, 00200,

City Square.

ATTN: To whom it may concern

RE: RESEARCH AUTHORIZATION FOR CAPTAIN JUSTUS ARODI.

This is to confirm that as his department head, I have no objections to him conducting research towards his dissertation. However, on your approval of his application, authorization must be sought from our head, learning and development as per company procedure.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'G.K. Githuku'.

G.K Githuku,

Chief Pilot

Appendix IV: KQ Pilot Training Regime

Table 2.4 – Training and Evaluation Requirements - Legend

X : Shall be completed during initial training only

1/2 : Shall be satisfactorily completed twice every calendar year (6 months)

1 : Shall be satisfactorily completed during initial training and once every calendar year

2:3 Shall be satisfactorily completed during initial training and once every 2 calendar years Shall be satisfactorily completed during initial training and once every 3 calendar years

A : Recommendation only

B : Demonstration of competence in normal and non-normal procedures and maneuvers shall occur once within any calendar year when completed in accordance with a comprehensive training and Evaluation program approved by the KCAA.

C : Limitations/performance for all types/variants must be trained/evaluated within a 3 calendar year Period.

D : Requirements may vary by state and class of special airport but generally renewed once per calendar

Year

E: Evaluation only required.

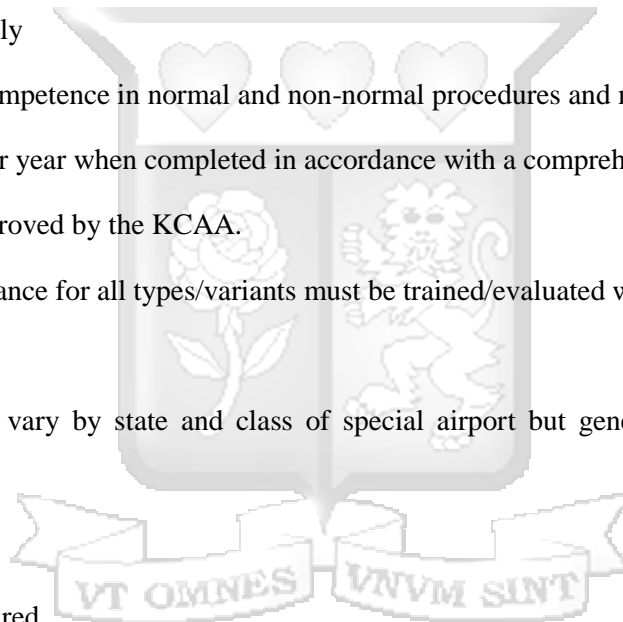
F : Training on operations near volcanic ash and thunderstorm avoidance may be completed during initial

Training only.

T: Training only required.

TE: Training and Evaluation.

T/E: Training or Evaluation.



Source: Copied from KQ Ops Manual part D

Table 2.4 Training and evaluation requirements

Table 2.4 – Training and Evaluation Requirements				
Training / Evaluation Syllabi	Ground	Simulator or Flight	Line	ISARP(FLT)
Basic Operator Familiarisation Training ^T	X			2.2.7
Emergency and Safety Equipment ^T	1			2.2.8
Emergency Evacuation ^T	3			2.2.8
Common Flight/Cabin Emergency, Safety Equipment (Recommendation) ^T	1 ^A			2.2.9
Common Flight/Cabin Evacuation (Recommendation) ^T	3 ^A			2.2.9
Dangerous Goods ^{TE}	3			2.2.12, 2.2.13
Combined CRM (Recommendation) ^T	1 ^A			2.2.15
Adverse Weather Operations ^{TE}	1 ^F			2.2.16
Aircraft Upset Recovery ^T	3			2.2.17
RVSM and RNP ^{TE}	X			2.2.18
Common Language Proficiency ^E	X			2.2.19/20
Common Language Proficiency (Recommendation) ^E	1 ^A			2.2.21
Security ^T	3			2.2.23
Unlawful Interference ^T	3			2.2.23
Windshear Avoidance and Recovery ^{TE}	1	1		2.2.32
Terrain Awareness / GPWS Alerts (CFIT) ^{TE}	1	1		2.2.33
TCAS Procedures ^{TE}	1	3		2.2.35
TCAS Procedures (Recommendation) ^{TE}		1 ^A		2.2.36
Line Operational Simulation (LOS) ^T		1		2.2.31
Aircraft Type / Different Types / Variants Qualification ^{TE}	X	1	X	2.4.3
Aircraft Type Performance ^{TE}	1 ^C			2.2.10
Aircraft Type Systems and Limitations ^{TE}	1 ^C			2.2.11
Seat-specific Qualification ^{TE}	X	1		2.2.37
Low Visibility Operations ^{TE}	X	1		2.2.34
Abnormal/Non-normal Procedures/Manceuvres ^{TE}	1/2 ^B	1/2 ^B		2.2.27
Normal Procedures/Manceuvres ^{TE}	1/2 ^B	1/2 ^B	1	2.2.27
Operations Requirements/Specifications ^{TE}	1	1	1	2.3.4
Crew Resource Management (CRM) ^T	1	1	1	2.2.14
Long-Range or Specialised Navigation (MNPS, AMU) ^{TE}	X	X	X	2.4.2
ETOPS ^{TE}	X		X	2.4.2
Command Training ^T	X	X	X	2.3.6
Special Routes and Airports Qualification ^{TE}	1 ^D	1 ^D	1 ^D	2.4.1

Note: Certain operational subjects required in the ground training syllabus may be accomplished as part of simulator training or during line operations.

Source: Copied from *KQ Ops Manual part D*

The initial training consists of *ab initio* training which is out sourced, usually from South Africa based Flight Training Schools. On qualification the students return to Nairobi, the home base, where they embark on a training program to convert their newly acquired South African licenses to Kenyan ones. Thereafter, they begin computer based (CBT) ground school course

on the type of KQ operated aircraft fleet to which they have been posted. Ground school is followed by company written exams and then KCAA type rating exams.

The successful students proceed to the simulator training phase which usually lasts for four weeks and those who pass return to base initially for Base Training at which students learn how to take off and land in a real aircraft though without passengers and cargo. The successful candidates proceed to Line Training, the phase at which the students fly with instructors in scheduled revenue flights; this takes a maximum of one hundred fifty flight hours. Those who fail to make it within that period are sometimes dropped off or, depending on performance, given additional time. Those who pass Line Training will then be absorbed as First Officers in their respective fleets; usually the junior most fleet. It must be added that several mandatory short ground courses are attended by the students as outlined in table 2.4, above.

For newly recruited Pilots already qualified from elsewhere (Direct Entry Pilots), the procedure is similar except they don't have to go through the *ab initio* phase again.

Thereafter pilot training and evaluation becomes a continuous process, i.e., after the initial training, continuous reviews and periodic checks take place. Some of the periodic checks are: Instrument Rating test (IR) where the pilot's ability to fly with sole reference to flight instruments is assessed; Operational Proficiency Check (OPC) – usually conducted in the flight simulator to assess the pilot's ability to safely handle the aircraft with multiple failures according to the company policy; Route Proficiency Check (RPC) which is a real time check on a revenue flight handling proficiency; and Extended Twin Engine Operations (ETOPS). All these checks are conducted once annually.

Other training programs are: upgrade/downgrade training which is given in case of promotion/demotion, in case a new fleet is introduced, or any new procedure is recommended by the regulators or manufacturers, and recency in case of a long layoff from flying.

Appendix V: KQ Research Data Collection Guide

Appendix B: Research Data Collection Guide - Ref. LD/4/RDG

Date: 06. JULY. 2015

Reference Number:

Name of Student: CAPT. JUSTUS O. ARODI.

Project Title: ENHANCING PILOT TRAINING THROUGH VIRTUES.

	Question		No
1.	Purpose for the data is for the completion of a certificate program		✓
2.	The data is for the completion of an undergraduate degree program		✓
3.	The data is for the completion of a masters degree program	✓	
4.	The data is for the completion of a PHD program		✓
5.	It is a self-administered questionnaire	✓	
6.	Are respondents required to provide their personal details?		✓
7.	Are respondents required to state their income?		✓
8.	Are respondents required to state their job grade or category?		✓
9.	Are respondents required to state their age?		✓
10.	Are respondents required to give information on KQ current strategies (3 years from current year)		✓
11.	Is the information required available in 'the public domain'?		✓
12.	Are you a KQ staff member? State department ----	FLY OPS	✓
13.	How many people would you like to complete the questionnaire?	172	
14.	Have you attached a copy of the questionnaire?	✓	
15.	Have you attached a copy of a letter from your institution?	✓	
16.	Will the findings of the study/ project be available to KQ	✓	

Data collection approved: _____

Data collection declined: _____

Reasons: _____

Please note: Please ensure you do this in your time and not 'Company' time. This means that you will collect data during your free time and that respondents will give you the information required and/or answer your questionnaire during their free time and not company time. That way, it will not affect your or your respondent's performance and productivity. While you collect data for your studies, please remember that the staff are under no obligation to give you information for your individual studies. Also, please ensure the process does not antagonize staff. Good luck with the data collection and with your studies.

Appendix VI: Request to Conduct Research Letter from Strathmore University



15th June 2015,

To whom it may concern

RE: REQUEST TO CONDUCT RESEARCH

This is to certify that Capt. Justus Arodi (Admission N^o 68342) is a Master of Applied Philosophy and Ethics student at Strathmore University. To complete his Master's degree he is required to write a dissertation applying the knowledge and skills he has acquired.

His dissertation on "*Enhancing Pilot Training through Virtues*" requires him to interview respondents.

Furthermore, we hope that his research will benefit your institution, management and staff.

We shall appreciate any assistance given to him.

Yours sincerely,

Dr. Magdalene Dimba

Ag. Director of Research,
School of Humanities and Social Sciences

Appendix VII: KQ Approval to Conduct Research



RPD/006/15

Justus Arodil
P O Box 19002-00501
NAIROBI

17th July 2015

Dear Joel,

RE: **REQUEST TO CARRY OUT RESEARCH AT KENYA AIRWAYS**

This is in response to your request to carry out a research project at Kenya Airways.

We understand that you would like to carry out a research on Kenya Airways and therefore you would want to administer a questionnaire/interview staff on the subject, 'Enhancing Pilot Training through virtues.'

We further understand that this research project is in partial fulfillment of your studies.

We have considered your request and are pleased to advise that the request has been granted on the following conditions:

- a. The findings will be used purely for research purposes and therefore shall not be published in the press or other publications without prior authorization from the Kenya Airways Group Managing Director and CEO
- b. The responsible Director or his appointee will review that report before submission to the University.
- c. You will not disclose any matter regarded as confidential in the process of carrying out the research.

You will provide one copy of the final report to the KQ Library.

Yours sincerely,

Dr. Mbithe Anzaya

Head of Learning

Appendix VIII: KQ Approval to Submit Research to Strathmore University



14th January 2016
Ref: OZ/005/2016

Justus Arodi
P. O. Box 19002-00501
NAIROBI

TO WHOM IT MAY CONCERN

RE: AUTHORIZATION FOR CAPTAIN JUSTUS ARODI (STUDENT No.068342) TO SUBMIT DISSERTATION TO STRATHMORE UNIVERSITY.

This is in response to your request for authority to submit your research dissertation entitled "INVESTIGATING THE VIRTUES OF AIRLINE PILOT TRAINING" to Strathmore University.

I am of the understanding that you have completed the research which you conducted at Kenya Airways and that you have complied with Kenya Airways requirements as follows:-

1. To submit a copy of the dissertation to my office for my perusal and authorization;
2. Not to disclose any matter regarded as confidential in the research process to anyone
3. Use the findings purely for research/academic purposes and, as such, are not to be published in the press or any other publication without prior authorization from the KQ Group Managing Director & CEO.

After reading the dissertation, I am happy to inform you that your request has been granted, nevertheless, you will provide one copy of the final report to the KQ library.

Yours sincerely
For & on behalf of Kenya Airways

Capt. Paul Mwangi
DIRECTOR FLIGHT OPERATIONS

CC: Strathmore University.
P. O. Box 5987 – 00200,
City Square,
NAIROBI.

Appendix IX: ALPA Code of Ethics



An Air Line Pilot will keep uppermost in his mind that the safety, comfort, and well-being of the passengers who entrust their lives to him are his first and greatest responsibility.

- He will never permit external pressures or personal desires to influence his judgment, nor will he knowingly do anything that could jeopardize flight safety.
- He will remember that an act of omission can be as hazardous as a deliberate act of commission, and he will not neglect any detail that contributes to the safety of his flight, or perform any operation in a negligent or careless manner.
- Consistent with flight safety, he will at all times operate his aircraft in a manner that will contribute to the comfort, peace of mind, and well-being of his passengers, instilling in them trust in him and the airline he represents.
- Once he has discharged his primary responsibility for the safety and comfort of his passengers, he will remember that they depend upon him to do all possible to deliver them to their destination at the scheduled time.
- If disaster should strike, he will take whatever action he deems necessary to protect the lives of his passengers and crew.

An Air Line Pilot will faithfully discharge the duty he owes the airline that employs him and whose salary makes possible his way of life.

- He will do all within his powers to operate his aircraft efficiently and on schedule in a manner that will not cause damage or unnecessary maintenance.
- He will respect the officers, directors, and supervisors of his airline, remembering that respect does not entail subservience.
- He will faithfully obey all lawful directives given by his supervisors, but will insist and, if necessary, refuse to obey any directives that, in his considered judgment, are not lawful or will adversely affect flight safety. He will remember that in the final analysis the responsibility for safe completion of the flight rests upon his shoulders.
- He will not knowingly falsify any log or record, nor will he condone such action by other crew members.
- He will remember that a full month's salary demands a full and fair month's work. On his days off, he will not engage in any occupation or activity that will diminish his efficiency or bring discredit to his profession.
- He will realize that he represents the airline to all who meet him and will at all times keep his personal appearance and conduct above reproach.
- He will give his airline, its officers, directors, and supervisors the full loyalty that is their due, and will refrain from speaking ill of them. If he feels it necessary to reveal and correct conditions that are not conducive to safe operations and harmonious relations, he will direct his criticism to the proper authorities within ALPA.
- He will hold his airline's business secrets in confidence, and will take care that they are not improperly revealed.

An Air Line Pilot will accept the responsibilities as well as the rewards of command and will at all times so conduct himself both on duty and off as to instill and merit the confidence and respect of his crew, his fellow employees, and his associates within the profession.

- He will know and understand the duties of each member of his crew. If in command, he will be firm but fair, explicit yet tolerant of deviations that do not affect the safe and orderly completion of the flight. He will be efficient yet relaxed, so that the duties of the crew may be carried out in a harmonious manner.
- If in command, he will expect efficient performance of each crew member's duties, yet he will overlook small discrepancies and refrain from unnecessary and destructive criticism, so that the crew member will retain his self-respect and cooperative attitude. A frank discussion of minor matters of technique and performance after the flight will create goodwill and a desire to be helpful, whereas sharp criticism and peremptory orders at the moment will result only in the breakdown of morale and an inefficient, halting performance of future duties.
- An Air Line Pilot will remember that his is a profession heavily dependent on training during regular operations and, if in command, will afford his flight crew members every reasonable opportunity, consistent with safety and efficiency, to learn and practice. He will endeavor to instill in his crew a sense of pride and responsibility. In making reports on the work and conduct of his crew members, he will avoid personal prejudices, make his reports factual and his criticisms constructive so that actions taken as a result of his reports will improve the knowledge and skill of his crew members, rather than bring discredit, endanger their livelihood, and threaten their standing in the profession.
- While in command, the Air Line Pilot will be mindful of the welfare of his crew. He will see to it that his crew are properly lodged and cared for, particularly during unusual operating conditions. When cancellations result in deadheading, he will ensure that proper arrangements are made for the transportation of his crew before he takes care of himself.

An Air Line Pilot will conduct his affairs with other members of the profession and with ALPA in such a manner as to bring credit to the profession and ALPA as well as to himself.

- He will not falsely or maliciously injure the professional reputation, prospects, or job security of another pilot, yet if he knows of professional incompetence or conduct detrimental to the profession or to ALPA, he will not shrink from revealing this to the proper authorities within ALPA, so that the weak member may be brought up to the standards demanded, or ALPA and the profession alike may be rid of one unworthy to share its rewards.
- He will conduct his affairs with ALPA and its members in accordance with the rules laid down in the Constitution and By-Laws of ALPA and with the policies and interpretations promulgated therefrom. Whenever possible, he will attend all meetings of ALPA open to him and will take an active part in its activities and in meetings of other groups calculated to improve air safety and the standing of the profession.
- An Air Line Pilot shall refrain from any action whereby, for his personal benefit or gain, he take advantage of the confidence reposed in him by his fellow members. If he is called upon to represent ALPA in any dispute, he will do so to the best of his ability, fairly and fearlessly, relying on the influence and power of ALPA to protect him.
- He will regard himself as a debtor to his profession and ALPA, and will dedicate himself to their advancement. He will cooperate in the upholding of the profession by exchanging information and experience with his fellow pilots and by actively contributing to the work of professional groups and the technical press.

An Air Line Pilot the honor of his profession is dear, and he will remember that his own character and conduct reflect honor or dishonor upon the profession.

- He will be a good citizen of his country, state, and community, taking an active part in their affairs, especially those dealing with the improvement of aviation facilities and the enhancement of air safety.
- He will conduct all his affairs in a manner that reflects credit on himself and his profession.

- He will remember that to his neighbors, friends, and acquaintances he represents both the profession and ALPA, and that his actions represent to them the conduct and character of all members of the profession and ALPA.
- He will realize that nothing more certainly fosters prejudices against and deprives the profession of its high public esteem and confidence than do breaches in the use of alcohol.
- He will not publish articles, give interviews, or permit his name to be used in any manner likely to bring discredit to another pilot, the airline industry, the profession, or ALPA.
- He will continue to keep abreast of aviation developments so that his skill and judgment, which heavily depend on such knowledge, may be of the highest order.

Having Endeavored to his utmost to faithfully fulfill the obligations of the ALPA Code of Ethics and Canons for the Guidance of Air Line Pilots, a pilot may consider himself worthy to be called...an AIRLINE PILOT.

