

Determinants of Flight Training Performance. Evidence from Kenya Aviation Training Institutes

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Abstract:

The main purpose of the paper was to establish determinants of flight training performance. This study adopted an explanatory design. The population consisted of 75 flight Instructors drawn from 17 aviation training institutes in Kenya. The main instrument in data collection was questionnaires. Data collected was analyzed by means of Statistical Package for the Social Sciences (SPSS) and presented through percentages, means, standard deviations and frequencies. The information was displayed by use of bar charts, pie charts and frequency tables. Based on the findings, resource availability is the most important as it has the highest contribution to pilot training. However, effective training requires sufficient infrastructure, government support, and access to instructional materials & technology including modern aircrafts, computers, training software and internet. Instructors also play an important role in achieving successful training by motivating pilots to improve, create and maintain a culture of safety. In order to improve the performance of pilot students, instructors need to adopt advanced, appropriate and modern training delivery methods to deliver an embodied, situated in learning environment, conducive to skill and knowledge development.

Keywords: *Flight Training Performance, Resource Availability, Instructors Qualifications and Course Relevance*

1.1 Introduction

The training institutions in Africa face challenges related to critical shortage of quality faculty; limited capacity of governance, leadership and management; inadequate financial support and problems of diversify funding; inadequate facilities and infrastructures; problems of quality and relevance of teaching and research; limited capacity of research, knowledge generation and adaptation capabilities; and problems in meeting increasing demand for equitable access. Across Africa and disciplines, on average, only 70% of the required faculty positions are filled, and in some departments, this is only about 30-40%. Not less than 40% of the faculty in many universities in Africa is near retirement age, and over 30% of faculty sent overseas for training fail to return (African Union, 2006).

According to World Bank (2002), leadership and management of training institutions in Africa face many challenges, as expressed by the inability to retain and attract faculty, underutilized facilities, and duplication of programs, high dropout and uneconomical procurement and large allocation of scarce finance to non-instructional expenditures. Academic leaders have little preparation, orientation and training in skills required for the positions. In the face of increasing enrollment in higher education - over four fold between 1985 and 2005 in sub-Saharan Africa - the quality of education and research is declining, the relevance of teaching and research is not maintained, and institutional quality assurance and enhancement mechanisms are either not in place or are very weak and inefficient.

Research capacities are generally poor- given the shortage of senior faculty, poor infrastructure, and facilities, lack of funding and strategic leadership. Though most research skills are acquired during graduate training, masters and doctorate levels, sub-Saharan African universities have a tiny proportion of their student enrolment in graduate programs. Less than 30% of students are enrolled in the fields of agriculture, engineering, and technology, basic and applied sciences, and health sciences, fields required for innovation and problem solving (African Union, 2006).

African governments have started to show commitment while international donors are gearing their support to the sector realizing it as an engine of development – producing the qualified human capital, generating knowledge, and ensuring participation in the global knowledge economy and building the necessary institutions and leadership capabilities in Africa (Ginette, Chute, Dib, Dookhony, Klein, Loyacano-Perl, Randazzo and Reilly, 2008).

It is repeatedly asserted that investment and interventions in higher education have to be long term and encompass the many challenges faced by the systems and institutions. Isolated efforts have to give way to more comprehensive, sequenced, well-funded, focused and inclusive interventions. A new kind of partnership based on listening to voices, on mutual benefit and respect, sense of ownership, urgency and purpose are required. The partnership that recognizes the diversity of Africa and specific circumstances of each country will have lasting sustainable effect and impact (World Bank, 2002). The report further states that collaborations between African and U.S. higher education institutions that focus on science and technology fields of study are essential to address the challenges – faculty development, leadership and management development, institution and facility development, curriculum redevelopment and quality and relevance assurance and enhancement, research capability improvement, etc. Efforts to mobilize and utilize the African Diaspora are also critical. Resource allocation for partnership collaborations based on transparent and well-designed competitive grants program would stimulate performance, improve quality and encourage innovation.

Throughout the world, and in particular the countries of Sub-Saharan Africa, governments are renewing efforts to promote training institutions with the belief that skill formation enhances productivity and sustains competitiveness in the global economy. According to Bhuwatee (2006), in recent years, concerns have been raised by most African countries about the move towards making training institutions complementary to post-basic education. African Union (2007) report also stressed the current vision of African countries in developing a new strategy to revitalize training in Africa. The expectation is that this will promote skills acquisition through competency-based training. If this vision should materialize, it will require proficiency testing for employment in order to promote sustainable livelihoods and responsible citizenship.

Most flight training schools in Kenya have stages from Private Pilot License to Commercial Pilots License, Multi-Engine and Instrument Rating which as a student pilot, one is required to pass through all these before becoming a fully certified commercial pilot. Kenya Airways occasionally advertises intakes for Ab initio Private Pilots training, and Commercial Pilots, the lucky few, complete further training after recruitment. <http://www.nac.ac.ke/>.

The flying schools are expected to have curriculum and syllabus accepted at international level for safety and training. There should be progressive reports and weekly tests to check on the students' performance, ensure their grounds and flight schools are balanced so that the students do not spend more time and money. Some schools do not care about the students' performance even though some students are good in ground studies while others in flying. The majority of the students do not attend lessons regularly, for what they consider less important, these results into an 'in-house' balance, subsequently, the courses take longer duration, becoming more costly, poor quality notwithstanding. This has contributed to the national carrier among others, sending their pilot cadets abroad. The local flying schools could offer training, meeting the local demand, if the required standards are met, this will save the country billions of shillings on pilot training that else could remain in Kenya. The overall effect would reduce deficits while improving on our balance of payments. Standards should be set and complied with by the flying schools; adequate regulation on investors in flying schools should be adopted and thorough audits before being licensed. It is worth noting that if some of the regulations are compromised, there is no way the international standards will be met and pilots will continue going abroad for their training. The success of any business is efficiency, reliability and commitment to the common good objectives and sometime cost doesn't count (<http://nairobiflighttraining.com>)

Muliro (2011) stated, through the standard newspaper that some of the challenges in the flight training institutions in Kenya are, weather, fuel & spare-parts, inadequate resources, lack of qualified ground and flight instructors, laxity in flying schools administration, lack of proper regulations and laws to govern flying schools and inadequate facilities in Airports and Airstrip for safety. Due to unpredictable weather in Kenya, almost a half year it is cloudy and rainy thus affecting the flying programmes and also the issue of inconsistency which even results in students spending more money than expected.

The other factors that are unpredictable are fuel & spare-parts as it is not controlled by the government and this contributes into the pilot training course becoming expensive. On the issue of inadequate resources, this is most challenging factors of all, some flying schools with 2 aircrafts and 40 students and when one breaks down, the 40 students share one and this dramatically slows down progress on flight training, further affecting the students` performance. This is one area that must be addressed as a matter of priority. The regulatory authority is supposed to ensure any investor who wants to start flying schools is limited to admission based on his/her resources and also semesters and curriculum to be published; these will eventually bring control into the flying schools. Since the only nearest place to source for spare-parts or engine is in South Africa, it takes weeks before delivery is done and afterwards the fitting and testing times, pushing further to a month. This affects flight operations, elongating training duration and costs, eventually the loser is the student who lags behind requiring more hours to be able to recover, which amounts to wastage of time and money (Muliro, 2011)

Most of the ground instructors are pilots who are unable to complete their course due to finances and they have not attended any ground instructor formal training but instead are learning on the job. This affects the ground school since students are not properly coached, evaluated and well prepared and resulting into many failing their theory exams and also spending more money than budgeted as they have to resit for their exams. Some end up doing their flight tests when they have not completed their ground school, their cross-country hours expiring earlier necessitating the need to renew by flying more for recency, increasing their cost of training. It is remarkably noted, the freelance flight instructors are on the rise due to poor work conditions and remuneration, where most opt to do part-time instructions and charter flights to make ends meet. When the flight instructors have charter flights the students suffer and miss consistency as instructors remain away for charter flights that may last a whole week. This results in inconsistency and lack of practice with long breaks calling for more hours to be able to cope. Lack of commitment amongst instructors who are demotivated doesn't take their work serious and instead instruct for, " as a by the way". (<http://standardmedia.co.ke>).

The study hypothesizes:

H₀₁: Resource availability has no significant effect on flight training performance

H₀₂: Instructors' qualifications has no significant effect on flight training performance

H₀₃: Course relevance has no significant effect on flight training performance

2.0 Theoretical Framework

There are many different theories of how people learn. What follows is a variety of them, and it is useful to consider their application to how your students learn and also how you teach in educational programs. Burns (1995) 'conceives of learning as a relatively permanent change in behaviour including both observable activity and internal processes such as thinking, attitudes, and emotions.

Traditional sensory stimulation theory has as its basic premise that effective learning occurs when the senses are stimulated (Laird, 1985). Laird quotes research that found that the vast majority of knowledge held by adults (75%) is learned through seeing. Hearing is the next most effective (about 13%) and the other senses - touch, smell and taste account for 12% of what we know. By stimulating the senses, especially the visual sense,

learning can be enhanced. However, this theory says that if multi-senses are stimulated, greater learning takes place. Stimulation through the senses is achieved through a greater variety of colours, volume levels, strong statements, facts presented visually, use of a variety of techniques and media.

Skinner(1991) believed that behaviour is a function of its consequences. The learner will repeat the desired behaviour if positive reinforcement (a pleasant consequence) follows the behaviour. Positive reinforcement or 'rewards' can include a verbal reinforcement such as 'That's great' or 'You're certainly on the right track' through to more tangible rewards such as a certificate at the end of the course or promotion to a higher level in an organisation. Negative reinforcement also strengthens a behavior and refers to a situation when a negative condition is stopped or avoided as a consequence of the behavior. Punishment, on the other hand, weakens behaviour because a negative condition is introduced or experienced as a consequence of the behaviour and teaches the individual not to repeat the behaviour which was negatively reinforced. A set of conditions is created which are designed to eliminate behaviour (Burns, 1995).

Laird (1995) considers this aspect of behaviourism has little or no relevance to education. However, Burns says that punishment is widely used in everyday life although it only works for a short time and often only when the punishing agency is present. Burns notes that much Competency Based Training is based on this theory, and although it is useful in learning repetitive tasks like multiplication tables and those work skills that require a great deal of practice, higher order learning is not involved. There is a criticism of this approach that it is rigid and mechanical.

The basic premise of this theory is that the 'individual personality consists of many elements specifically the intellect, emotions, the body impulse (or desire), intuition and imagination (Laird, 1985) that all require activation if learning is to be more effective. The emphasis here is on the importance of experience, meaning, problem-solving and the development of insights (Burns 1995). Burns notes that this theory has developed the concept that individuals have different needs and concerns at different times, and that they have subjective interpretations in different contexts.

2.1 Literature Review

2.1.1 Resources Availability

The management of material resources entails planning, acquisition, allocation, distribution and controlling the use and maintenance of the materials. Onyango (2001) states that planning for material resources involves the identification of the resource requirements, assessing quality in terms of the needs, establishing criteria for standards, determining the cost per unit and the use of the materials whether by individuals or groups. With fewer fully equipped schools, the few could have registered over-enrolment, which means that the resources available in schools are constrained. The chief instructor is also responsible for the school facilities.

Read Bontoux, Buchan, Foster, and Bapuji (2008) noted that textbooks, especially at the higher level education, are often imported and produced at high costs with presentational specifications that are unaffordable for many parents and governments in SSA. Verspoor (2008) proposes that effective textbook supply strategies will depend on a vibrant local publishing industry and effective booksellers' network. In smaller countries, regional cooperation is essential to keeping cost down. The cost of construction of classrooms and specialized facilities is another important cost item that needs careful consideration.

Verspoor (2008) argues that increases in public spending will be inadequate to generate increases in education attainment and learning achievement unless accompanied by reforms that aim at a more efficient use of available resources and find sources of additional funding. He advises that well-structured, Public-Private

Partnerships (PPPs) can help diversify the sources of financing and provision. Mbugua (1987) says that one of the duties of the head teachers in Kenya is to develop the school's physical facilities. She argues that in dealing with physical facilities, the ahead teacher has to bear in mind where to house the educational program, the population to be served by the facility and ensure that financial resources are readily available for the school expansions.

2.1.2 Instructors Qualifications of Teaching

The effective learning depends upon the quality of instructing which requires individuals who are academically able and who care about the well-being of student and youth. (Highland Council Education, Culture and Sports Service, 2007). Arguing the need for an effective instructor education program, Lawal (2003) indicated that such persons would be able to deliver effective instructing. They are expected to employ the use of teaching aids to improve their delivery process, and manage the students in the class, through applications of better methods and manage and control their classes for effective learning. The role of instructors in making professional knowledge available to their colleagues and students, with on motivation impact on instructors' job effectiveness, are essential for educational development. Keeping in view the above established linkage between instructors it is required to explore indicators and standards for an effective instructor who may lead to improving school effectiveness. In order to make an instructor perfect or better, it is essential that course for teachers be re-oriented, re-shaped, and re-drafted to improve the overall status of a teacher. An adequately trained teacher will be able to deliver quality education, which will be reflected in providing better education to the future generation of the country.

The findings of a study conducted by Fuller& Alexander (2004) indicated that students who were taught by educationally qualified instructors showed better results. (Laczko-Kerr and Berliner, 2002) also showed in another study that those students who were taught by untrained instructors performed substantially poorly than those who were given education by instructors, but who were qualified. Darling-Hammond (1999) in their study showed a substantial linkage between good results and qualified instructors. The study also showed a substantially negative linkage between results obtained by untrained instructors, who were comparatively new on the jobs. (Fetler 1999) was of the view that instructors with short training did not perform well when compared with those who were fully trained and had longer experience.

Balon(1990) is the view that an effective instructor can be valuable for the students, the society, and the country. This is because of the fact that such an instructor educates the future generation, on whom the future of the society and the nation depends. Such an education involves primarily an overall development of a person, to make him a complete individual of the society. The difference between a trained and an untrained instructor lies in methods adopted for instructing and development of children. There is great diversity in the type of training available to instructors, and thus comparisons become difficult. Analyst has, therefore, tried to find effects of training for instructors and are of the opinion that pedagogical training is better than those who do not have this type of training (Hedges and Laine, 1996).

Realizing the importance of education, Lawal (2003) points out that "the learning process is a basic element of cultural progress without which no individual can attain professional development. From the aforementioned, it transpires that it is through effective instructor education programs, that we can improve instructing, which is the gateway to knowing, learning and teaching. These help instructors to develop as "effective instructors." Instructor education programmes are directed to equip the instructors with professional skills, knowhow, and motivation to encourage students to acquire knowledge and attitudes, about society, wherein they live. This process is expected to result in an instructor who possesses the required qualities of achievements. With these requirements, instructor education assumes an essential role in the educational process dealing with the acquisition of effective instructing skills and techniques. The development and improvement of education by a

nation requires that all the essential elements for improving training in education must be provided, including, selection of professional and scholastically qualified instructors. Such instructors consider education as a sacred mission for improvement of education in the country so as enable it to complete with other nations,(Lawal, 2003).

To make the instructing profession more acceptable and professional, it is essential that research in instructor education should assume a pivotal role. This must include a transmission and acquisition of knowledge so that those who are trained are able to realize the impact that the training, would have to the entire economy as well as the society. In addition to professional training, instructors should be trained in learning practical ethics related to education and various models made for school effectiveness and instructor education. These are open for further research in this direction (Hedges and Laine, 1996).

2.1.3 Relevance of Pilot Training in Kenya

Throughout the world, and in particular the countries of Sub-Saharan Africa, governments are renewing efforts to promote technical and vocational education and training (TVET) with the belief that skill formation enhances productivity and sustains competitiveness in the global economy. According to Bhuwatee (2006), in recent years, concerns have been raised by most African countries about the move towards making TVET complementary to post-basic education.

The role of TVET in furnishing skills required to improve productivity, raise income levels and improve access to employment opportunities has been widely recognized (Bennell, 1999). Developments in the last three decades have made the role of TVET more decisive; the globalization process, technological change, and increased competition due to trade liberalization necessitate requirements of higher skills and productivity among workers in both modern sector firms and Micro and Small Enterprises (MSE). Skills development encompasses a broad range of core skills (entrepreneurial, communication, financial and leadership) so that individuals are equipped for productive activities and employment opportunities (wage employment, self-employment and income generation activities).

King and McGrath (2004) argued that with TVET being more diverse because of the changes in the labour market, it should be able to integrate the youth into the working world. Given the prevailing economic trend, UNESCO (2004) identified the two major objectives of TVET as the urgent need to train the workforce for self-employment and the necessity to raise the productivity of the informal sector. They point out that lack of resources has led to cuts in the volume of training provided in public institutions. These cuts are a hindrance to pursuing the critical objectives of providing training and raising production. Considering the expensive nature of TVET as a form of education, it is imperative that an expanded system with necessary and adequate facilities and equipment will lead to the effectiveness of the system.

Related studies carried out by Islam and Mia (2007) in Bangladesh revealed that both formal and non-formal TVET lacked an effective linkage between training and the world of work. It further noted that because of its lack of coherent mode, practical skills training which does not produce the requisite skills for the job market. Additionally, the trainees also lacked training experience, initiative, and motivation to discharge their duties effectively.

Abban and Quarshie (1996) pointed out that the paradigm shift towards practical skills training with TVET in Africa is increasingly being reshaped to make it more attractive, efficient and effective. One of the most important features of TVET, as recognized by African governments, is its orientation towards the world of work with the curriculum emphasizing the acquisition of employable skills. African Union (2007) report also stressed the current vision of African countries in developing a new strategy to revitalize TVET in Africa. The

expectation is that TVET will promote skills acquisition through competency-based training. If this vision should materialize, it will require proficiency testing for employment in order to promote sustainable livelihoods and responsible citizenship.

To achieve this goal of practical skills acquisition, Roeske (2003) explained, the Ghana Industrial Skills Development Centre was established in 2002. This centre, working in close collaboration with the Association of Ghana Industries (AGI) and the Ghana Employers Association (GEA), was tasked to harness the financial and material resources required for achieving excellence in skills training. A number of other institutions like Integrated Community Centre for Employable Skills (ICCES), the Opportunities Industrialization Centre (OIC) and the Department of Social Welfare’s Vocational Center are part of government’s effort to produce skillful technical personnel.

Other innovative programmes like the Skills Training and Employment Placement (STEP) and the Vocational Skills Project (VSP) were also put in place to turn out skillful technical personnel for the job market (Roeske, 2003). The Ghana Regional Appropriate Technology Industrial Service (GRATIS) and Intermediate Technology Transfer Units (ITTU) are also providing TVET trainees with additional and enriched practical skills to enable them set up their own enterprises. But all these interventions have not yielded the expected result. In an attempt to address these challenges, Reddan and Harrison (2010) argued that TVET institutions need to restructure their programmes to be responsive to the needs of the job market, especially the industry. To achieve this goal, TVET curricula must focus on outcomes in terms of the skills, knowledge, and attitudes required industry. That is, TVET provision should be responsive to the demands of industry.

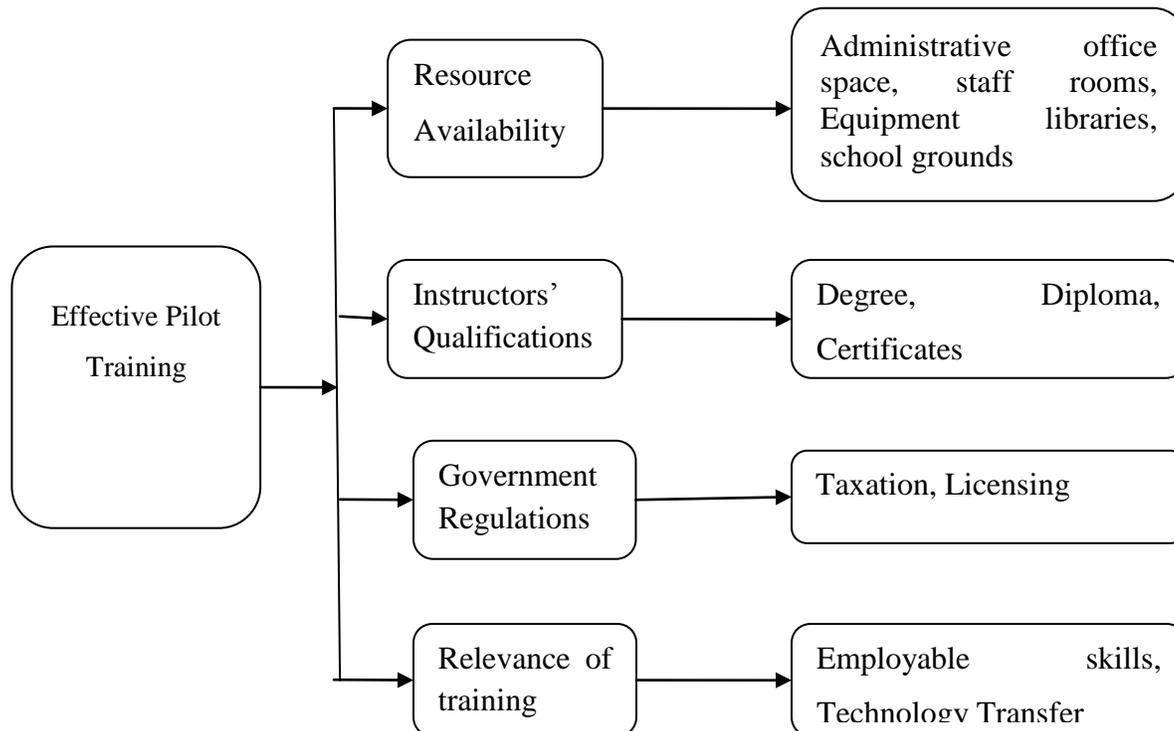


Figure 1 Operational Framework

3.0 Material and Methods

This study adopted explanatory research design. The population is made of 75 flight instructors from 17 flight training institutions. Using Krejcie and Morgan (1970) the study randomly selected a sample of 63

respondents. The main instrument in data collection was structured questionnaires. Data collected was analyzed using both descriptive and inferential techniques; The multivariate regression equation was

$$Y_i = \alpha + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e$$

Where: Y_i = pilot training, X_1 = Resources availability, X_2 = instructors' qualification, X_3 = government regulation, X_4 = course relevance

α = constant ; b_1, b_2, b_3 and b_4 = Coefficients; e = error term

4.0 Results and Discussions

The section presents a detailed analysis of the data collected, findings' interpretation; and presentations.

4.1 Sample characteristics

The Most of the respondents (79%) were male while 21% were female. This implies that majority of the people working in the pilot training institutions in Kenya are men. 64% of the respondents were aged between 19 and 29 years, 11% were between 30 and 39 years, 9% were aged between 40 and 49 years, and 15% were aged between 50 and 60 years. This implies that majority of the instructors in the training schools are young people. This further indicates that 55% of the respondents had attained university education while 45% had a college education. This means that all the respondents had the minimum academic qualifications to work in the training institutions. The majority of the instructors had between 1 and 5 years' experience.

4.2 Resource Availability and Pilot Training

The first objective sought to examine the effect of resource availability on pilot training. The study assessed the level of sufficiency of the following training resources in the institutions and the effect of the resource availability on training.

Table 1 Resource Availability

Statement/ item	SD		D		A		SA		Mean scores
	Fq	%	Fq	%	Fq	%	Fq	%	
The school's workshop has adequate tools and equipment for teaching/instruction.	4	9.1	4	9.1	16	36.4	20	45.5	3.18
The inadequacy of teaching tools/equipment hinders my teaching effectiveness.	12	27.3	8	18.2	12	27.3	12	27.3	2.55
My school has enough training aids for effective teaching	0	0	0	0	24	54.5	20	45.5	3.46
Instructors have sufficient access to instructional materials & technology including computers, printers and internet access.	0	0	4	9.1	20	45.5	20	45.5	3.36
The school has adequate reference books and textbooks which increases my teaching effectiveness	0	0	4	9.1	28	63.6	12	27.3	3.18
The school has adequate aircrafts and infrastructure such as runways for practical lessons.	0	0	8	18.2	28	63.6	8	18.2	3

The results (Table 1) show that workshops' of the training schools had adequate tools and equipment for instruction as noted by 82% of the respondents. Although, 54% of the respondents noted that the inadequacy of teaching tools/equipment hindered their teaching effectiveness. The respondents (100%) also indicated that their schools had enough training aids for effective teaching. On access, 91% confirmed that instructors have sufficient access to instructional materials & technology including computers, printers, and the internet. Moreover, the school had adequate reference books and textbooks which increased my teaching effectiveness as noted by 91% of the respondents. It further emerged from 88% of the respondents that schools had adequate aircrafts and infrastructure such as runways for practical lessons.

4.3 Instructors Qualifications and Pilot Training

Objective two sought to evaluate the effects of instructors' qualifications on pilot training in Kenya. The study assessed the professional qualifications of the instructors and their effects on pilot training. In a scale of 1 to 4, where 1 strongly disagrees, and 4 strongly agrees, the respondents were asked to rate a set of statements regarding the influence of staff qualifications on pilot training. According to the results in Table 2, Instructors play an important role in achieving successful training by motivating pilots to improve, create and maintain a culture of safety as stated by 91% of the respondents. It also emerged (100%) that to be effective, instructors must receive qualification and be calibrated with proper validation criteria. Further, the respondents (91%) stated that change to the instructor qualification and instructional practices would yield an immediate improvement to training experience and effectiveness. They (100%) also pointed out that Training delivery methods must advance to deliver an embodied, situated learning environment conducive to skill and knowledge development. This is also supported by the average score of each statement. The scores range from 3.273 to 3.636. An average score of three signifies agree.

Table 2: Instructors' Qualifications

Statement/ item	SD		D		A		SA		Mean scores
	Fq	%	Fq	%	Fq	%	Fq	%	
Instructors play an important role in achieving successful training by motivating pilots to improve and to create and maintain a culture of safety.	0	0	4	9.1	16	36.4	24	54.5	3.46
To be effective, instructors must receive qualification and be calibrated with proper validation criteria.	0	0	0	0	16	36.4	28	63.6	3.64
Change to the instructor qualification and instructional practices would yield an immediate improvement to training experience and effectiveness.	0	0	4	9.1	20	45.5	20	45.5	3.36
Training delivery methods must advance to deliver an embodied, situated learning environment conducive to skill and knowledge development.	0	0	0	0	32	72.7	12	27.3	3.27

4.4 Course Relevance

Objective four sought to examine the influence of course relevance on pilot training in Kenya. In order to address the objective, the respondents were given a set of statements regarding the influence of course relevance on pilot training and told to rate them in a scale of 1 to 4, where 1 strongly disagrees, and 4 strongly agrees. The findings (Table 4.9) show that according to 82% of the respondents, pilot training is a prestigious and lucrative career and therefore, the course is, however, unaffordable to many people because the training costs are very high as pointed out by all the respondents (100%).

The respondents (82%) also noted that training in Kenya was per the international standards and this makes it possible for pilots to get employed in international airlines. However, they (73%) disputed the claim that quality of the pilot course in Kenya is poor making student enrolment difficult. According to 64% of the respondents there are very few opportunities for pilots in Kenya, hence low student enrolment although the colleges' offers a variety of approved courses and bestows internationally-recognized certificates and diplomas to students as noted by 54% of the respondents. The mean scores are in tandem with the percentage individual item scores. A score of 2.273 signifies disagreement while those above 2.5 indicate agreement.

Table 3: Course Relevance

Statement/ item	SD		D		A		SA		Mean scores
	Fq	%	Fq	%	Fq	%	Fq	%	
Pilot training is a prestigious and lucrative career	0	0	8	18.2	28	63.6	8	18.2	3
The course is however unaffordable to many people because the training costs are very high.	0	0	0	0	32	72.7	12	27.3	3.27
The training in Kenya is per the international standards, and this makes it possible for pilots to get employed in international airlines	4	9.1	4	9.1	24	54.5	8	18.2	5.55
The quality of the pilot course in Kenya is poor making student enrolment difficult.	0	0	32	72.7	12	27.3	0	0	2.27
There are very few opportunities for pilots in Kenya, hence low student enrolment	8	18.2	20	45.5	8	18.2	8	18.2	2.37
The colleges offers a variety of approved courses and bestows internationally-recognized certificates and diplomas to students	12	27.3	8	18.2	20	45.5	4	9.1	2.37

4.5 Performance of the Pilot Students

When asked to indicate the performance of students, 36% rated the performance fair, 55% rated it good and 9% rated it good as illustrated in Figure 4.4. This show that majority of the respondents felt that the performance of their students was good

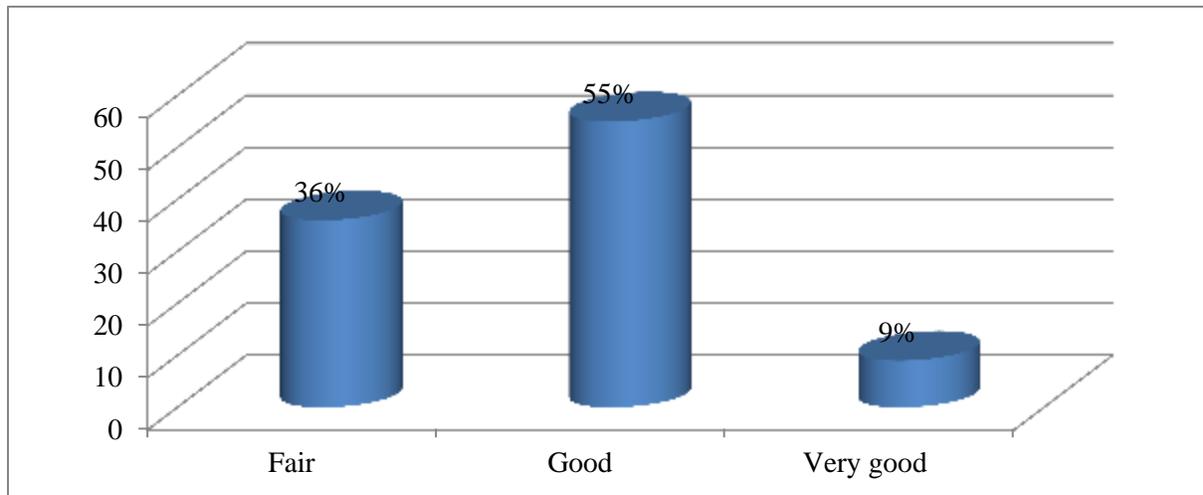


Figure 1: Performance of pilot students

4.6 Hypotheses Testing

The study had hypothesized that course relevance, instructors' qualification, government regulation; resource availability had an effect on pilot training. A pair wise Pearson's Product Moment of Correlation was run to establish the relationships between the independent variables and the dependent variable.

Hypothesis 1: Resource availability has no significant effects on flight training performance in Kenya. A Pearson Product Moment Correlation test was run to establish the influence of resource availability on pilot training. As shown in Table 4, there is a positive correlation between of resource availability on pilot training with a coefficient of 0.539. Moreover regression results indicated that *Resource availability has significant positive effects on flight training performance in Kenya* ($\beta_1=.487, p<0.05$). This shows that an increase in the availability of training resources leads to an increase in pilot training. The results are in line with those of Bell and Rhodes (1996) who noted that in order for a school to advance the learning opportunities offered to the

pupils, it has to adequately utilize the facilities available. It is the responsibility of the head teacher to ensure that there is adequate classroom space to enable the teaching-learning process to take place without any hitches. He should ensure that the facilities are used efficiently and effectively.

Hypothesis 2: Instructors' qualification does not significantly affect pilot training in Kenya.

In order to establish the influence of instructors' qualification on pilot training, The results in Table 4 indicate that instructors' qualification had a positive effect on pilot training with a beta coefficient of 0. 289. This implies that an improvement in instructors' qualification leads to an increase in pilot training. The findings confirm those of Pianta & Hamre, (2009) who indicate that research has demonstrated that a bachelor's degree alone is insufficient to ensure teacher quality. Rather, it is the presence of that degree in combination with specialized training relating to classroom practice that results in quantifiable teacher-quality improvements. However, some evidence supports the view that teachers with more cognitive ability as demonstrated by their test scores are better able to increase student achievement (Rice, 2003; Rockoff et al., 2008; Wayne & Youngs, 2003).

Hypothesis 3: Course relevance has no significant effects on pilot training in Kenya.

In order to establish the influence of course relevance on pilot training, Pearson's Product Moment Correlation was run. The results in Table 4. Indicate that course relevance had a positive effect on pilot training with a beta coefficient of 0. 339. The p-value is 0.005 and thus, less than the alpha of 0.01 hence establishing a high significant relationship between variables. This implies that a positive improvement in course relevance leads to an increase in pilot training.

According to Table 4, the results indicate that course relevance; instructors' qualification, and resource availability accounts for 50% (R Square, 0. 495) of the variation in pilot training. The results also indicate that the estimation of pilot training using the model can only be wrong by 0.53% (Std. Error of the Estimate, 0. 53249).ANOVA test was also conducted to determine whether the model works in explaining the relationship among variables as postulated in the conceptual model. The results in Table 4 show an F value of 9.547 with a significance level of 0.000 which is far lower than the confidence level of 0.05, hence establishing a significant relationship. The implication is that the independent variable contributes significantly to changes in the dependent variable. This shows that the model works and thus accounts for significantly more variance in the dependent variable than would be expected by chance.

Table 4 **Regression Coefficients**

Independent variables	Unstandardized Coefficients		Standardized Coefficients			correlations zero-order
	B	Std. Error	Beta	t	P value	
(Constant)	-1.182	0.591		-2.001	0.052	
Resources availability	0.357	0.093	0.487	3.852	0.000	.539**
Instructors' qualification	0.275	0.114	0.289	2.423	0.02	.415*
Course relevance	0.308	0.104	0.339	2.959	0.005	.367**
R Square	0.495					
Adjusted R Square	0.443					
Std. Error of the Estimate	0.53249					
F	9.547					
Significance	.000(a)					

Dependent Variable: Pilot Training

5.0 Conclusions and Recommendations

The level of pilot training in Kenya is high. This has been contributed by the availability of training resources, qualified instructors and its relevance with regards to the job market. Based on the findings, resource availability is the most important as it has the highest contribution to pilot training; indeed Kenya has the greatest aviation expertise in Africa. However, effective training requires sufficient infrastructure, government support, and access to instructional materials & technology including modern aircrafts, computers, training software, and the internet.

Instructors also play an important role in achieving successful training by motivating pilots to improve, create and maintain a culture of safety. To be effective, instructors must be qualified and be calibrated with proper validation criteria. The industry needs guidance on how to provide these in an affordable and effective way. Change to the instructor qualification and instructional practices would yield an immediate improvement to training experience and effectiveness. It is also clear that pilot training is a prestigious and lucrative career and therefore, the course is, however, unaffordable to many people because the training costs are very high. The quality of the pilot course in Kenya is high, and this has encouraged high student enrolment. Further, Kenyan colleges offer a variety of approved courses and bestows internationally-recognized certificates and diplomas to students.

In order to improve the performance of pilot students, instructors need to adopt advanced, appropriate and modern training delivery methods to deliver an embodied, situated learning environment conducive to skill and knowledge development. The school's managers should also implement voluntary flight instructor professional accreditation programs and continuing training that emphasize higher-order pilot skills, scenario training, and interpersonal relationship skills

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