The South Africa Project, Aviation Educational Initiative

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Abstract

In the spring of 2009, a team, led by a university in Florida, traveled to Pretoria, South Africa for the first of two trips. The first trip was a fact finding mission and the second trip was for implementation purposes. On the first trip, information was gathered to help assess and create three new concentration curriculums for Tshwane University of Technology. One of the current curriculum objectives being developed is the specialty in Aviation Management. According to Sue Geldenhuys, Travel and Tourism Head of Department at Tshwane University of Technology, it will be the first of its kind in Southern Africa.

During the first trip to South Africa, the aviation curriculum development leader met with various individuals representing a vast cross-section of the South African aviation industry. They included the following: Civil Aviation Authority, South African Airways, ICAO – International Civil Aviation Organization, Airport Company of South Africa, local airport managers, and local and regional government agencies. The overall contingency among these individuals was that there is a great need for aviation curriculum in the higher education system of South Africa. Every entity offered advice and input to the potential new curriculum and expressed immediate support of the new program.

The article examines the needs assessment for aviation curriculum in the higher educational system of South Africa. It also explores the content of this curriculum.

Rationale

Aviation management encompasses a multitude of types of aviation positions. While, the industry has delineated itself into various categories such as airline, airport, civil aviation, air traffic control, and piloting (as evident by the number of professional associations), they all represent the planning and managing of a business that brings people together with a specific mission and need to accomplish a specific organizational goal. Aviation helps contribute to growth in many other areas: tourism hinges on airports and the airlines to deliver passengers to resort locations, corporate enterprises depend on civil aviation businesses to maintain and fuel their aircraft and to take care of their flying customers. Of course none of these aviation services can be run efficiently without a strong regulatory body like the South African Civil Aviation Authority (CAA) and a strong airport management system such as Airports Company South Africa.

The current state of the South African Aviation Industry, according to the latest posted statistics on the South African Civil Aviation Authority website (www.caa.co.za/), consists of approximately 14,000 registered pilots and 4,500 registered aircraft. These pilots and aircraft are supported by an airport system of approximately 700 ICAO recognized landing facilities. Ten of these airports are managed by ACSA. The air traffic management system handles more than 400,000 total aircraft departures and arrivals a year.

The website further states: South African Aviation Industry is a growing and prospering environment. Since the South African Civil Aviation Authority was established in 1998, the industry has made great strides to modernize and expand. According to the CAA it rightfully claimed its position as a regional leader in the aviation regulatory sector and was elected to be a member of the International Civil Aviation Organization (ICAO) Council, a move that sees the country participating at the highest forum with regards to aviation matters ("South African Aviation," 2006). The CAA has established there is a need for better trained individuals to work in this dynamic industry. In the South African Civil Aviation Authority's Strategic Plan for 2009-2012, the strategic mapping process outlines the new strategic objective to attract, develop, and retain human capital. The critical issues outlined in this process include: establishing competitive remuneration structures, favorable working environments, commitment by management to training development, creation of a management development program, and staff morale ("Strategic Plan," 2006). By covering these issues the CAA will assist in accomplishing one of its main priorities that is aviation safety, security, transformation and growth.

Needs Assessment

In the spring of 2009, a team, led by a university in Florida, traveled to Pretoria, South Africa for the first of two trips. The first trip served as a fact finding mission and the second trip was for implementation purposes. On the first trip, information was gathered to help assess and create three new concentration curriculums for Tshwane University of Technology. One of the current curriculum objectives being developed is the specialty in Aviation Management. According to Sue Geldenhuys, Travel and Tourism Head of Department at Tshwane University of

Technology, there is a great need for aviation to be adopted as curriculum into South African Higher Education. She went on to state: it will be the first of its kind in Southern Africa (Geldenhuys, 2009).

During the assessment trip to South Africa, the aviation curriculum development leader met with various individuals representing a vast cross-section of the South African aviation industry. They included the following: Civil Aviation Authority, Airport Company of South Africa, South African Airways, International Civil Aviation Organization, local airport managers, and local and regional government agencies. The overall contingency among these individuals was that there is a great need for aviation curriculum in the higher education system of South Africa. Every entity offered advice and input to the potential new curriculum and expressed immediate support of the new program.

The South African CAA (Nkabiti, 2009) and ACSA (Mokhema, 2009) reported that both entities are struggling to find relevant personal with appropriate aviation qualifications to hire for entry level positions. These administrations are spending much time and money to introduce the basic knowledge of aviation to new hires. They both agree there is a need for aviation management curriculum in higher education and having a diploma being offered in aviation would help enrich the quality of future applicants.

South African Airways agreed (Bustos, 2009) with CAA and ACSA. SAA stated besides basic aviation knowledge, there is a need to find individuals with computer skills enabling them to run spread sheets for income statements and balance sheets as well as supply and demand curves (Bustos, 2009). They suggested these types of skill sets be introduced at the diploma level.

Local airport manager carried the same theme for education and the difficulty to find qualified personnel candidates. They pointed out the need for applicants to understand basic regulatory knowledge, airport services, and master planning (Sayce, 2009).

According to Khumbu Sithole, Senior Manager, Research & ICT Gauteng Tourism Authority, there is a great need to educate people about aviation in his department. He went on to outline areas of focus that his organization would benefit from having staff knowledgeable in. These areas include: aviation industry knowledge, airline impacts, and impacts of local airports on local communities (Sithole, 2009).

Wouter Koekemoer, Director, Tourism Promotion Economic Development City of Tshwane, agreed with Mr. Sithole, and pressed the issue further. He stated there is a great need in aviation education (Koekemoer, 2009). He suggested some areas that students and potential employees should be knowledgeable in which would benefit his department which included: being able to benchmark local airports to each other, measure city level economic impacts, having a general understanding of aviation related impacts, and measuring Gross domestic Product (GDP) (Koekemoer, 2009).

To further support a need for immediate aviation education, Jossie Swiegers, ICAO Safety Expert/Lecturer, cited a recent ICAO safety conference to pinpoint current training deficiencies of airport managers in South Africa (Swiegers, 2009). The conference was given at a local airport in South Africa. The attendees from the South African airport included:

Airport manager

Head of the Department: Safety

2 Duty Managers

3 Senior Safety Managers

10 Safety Officers

1 Environmental Safety Officer

A pre-test was administered to the attendees. The results of this test were astonishing. The percentage below indicates the number of attendees who did not know.

What is an ILS? - 45%

Instrument Landing System

What is ICAO? - 40%

International Civil Aviation Organization

What is a movement area? - 70%

Area negotiated by Air Traffic Control and Airport Management where motorized vehicles could come in contact with airplanes.

What color are taxiway lights? - 50%

Blue

Conclusions

The needs assessment for the aviation curriculum has proven to be vital for South Africa. There is an immediate need for aviation education, according to industry and government officials. From the above it is clear that a need exists to develop specialized skills for this emerging discipline. The development of an Aviation Management Qualification in higher education will satisfy this need. Aviation management is the process by which the manager plans, prepares and produces a quality product, safely and efficiently. As with any other forms of management, it encompasses the regulation, assessment, definition, acquisition, allocation, direction, control, and analysis of time, finances, personnel, products, services and other resources to achieve objectives. The size and scope of aviation is ever changing and new programs in higher education are emerging internationally to deal with the complexities and workforce shortages of this multi-disciplinary profession. Notwithstanding the above there are currently no public higher education institutions in South Africa offering undergraduate programs in Aviation Management (Geldenhuys, 2009).

Learners with this qualification will be able to coordinate and manage the broad spectrum of aviation businesses in the aviation industry. An Aviation Manager will be able to coordinate and manage many aviation genres through all phases, research, plan, design, conduct and evaluate in different contexts. Successful aviation management requires a historical understanding of the industry, regulatory knowledge, professional skills, allied to proven experience. The aviation industry is constantly in change, and the skilled aviation professional will be able to advise on issues relating to certification, regulation, security, master planning, protocol, and corporate responsibility. The list does not end there. Airport and airline managers will be able to communicate with the public, understand their needs and deliver a product to meet these needs within budget. Professional aviation management skills are required to coordinate elements of marketing, media, sponsorship, budgets, financial management, public speaking, planning, and complying with regulatory bodies. Sophisticated IT systems are required and the skill sets to run these systems are needed for financial management, logistics, reservations, and certification. Successful learners will be equipped with the necessary aviation skills to begin work in any facet of the industry. The learners will also obtain the fundamental ground school knowledge for a Private Pilot License and potentially could transition into and begin pilot training. The labor intensive nature of the industry and the various skills levels in aviation management will provide employment opportunities for many South Africans to become managers at airports, airlines, civil aviation businesses, and in aviation related government positions. The industry contributes significantly to the GDP of the country and can play a significant role in transformation (Mekgoe, 2009).

The curriculum will be developed in accordance with the Aviation Accreditation Board International's (AABI) Accreditation Criteria Manual (AABI, 2009). AABI is the international accreditation body for aviation curriculum in higher education. The qualification's outcomes will be specific curriculum requirements outlined in this manual. These outcomes through a comparative analysis of the competency domain outlines of the aviation industry, national and international skills standards and vocational qualifications from the United States and other countries. The curricula and skills standards from several academic institutions, and the topics covered in industry-related books, research and conference proceedings on aviation management curricula will also be investigated.

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