
Sorenson Best Paper Award Recipient
**ACHIEVING RECOGNITION AS A
WORLD CLASS AIRPORT THROUGH
EDUCATION AND TRAINING**

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ABSTRACT

The need and requirement exists for the implementation of proper safety oversight systems by airport operators and management. The ability to achieve world-class airport operations can occur only if airport personnel receive the proper education and training to manage safe operations and increase operating efficiency. This paper addresses the current requirements of the International Civil Aviation Organization for the certification of airports and means by which to obtain a proper safety oversight system, provides examples of airports making progress toward meeting world class standards, and describes a program for certifying airport personnel as a means to achieve world class airport operations.

INTRODUCTION

The management and operation of airports is becoming more complicated and sophisticated due to advancing technology and user demands. Outside forces such as airport users, tenants, customers, and government agencies exert additional demands requiring change and growth on the part of airport management and employees to meet those requirements. These demands require a more highly skilled and knowledgeable work force. A safety conscious society also requires airport operation and maintenance personnel to be qualified in their respective areas. Though education and training have always been integral to effective airport operations, its significance has certainly increased in recent years due to global competition for passenger, cargo and economic development.

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If the goal of an airport is to improve safety and security, meet International Civil Aviation Organization (ICAO), International Organization of Standards (ISO 9000), or state government standards, or be competitive in the global marketplace, then airport management and their employees must keep pace with changes in society and the industry if they expect to meet customer demands for a world class airport. World class is a term that is defined as an organization's ability to provide a product and/or service as good as, or better than, any other competitor in the world through some competitive advantage (Dessler, 1995).

Recently, ICAO adopted new Standard and Recommended Practices (SARPs) governing the operation and management of airports. Compliance with the SARPs will require both increased education and training of personnel. Amendment 4 to the *ICAO Annex 14 Volume I Aerodromes* spells out the requirements for the certification of airports serving international air carrier operations (Rao, 2002). It recommends that all public use airports and not just international ones be certified as well.

To accomplish these goals, it is important to remember that airport organizations are made up of people and they exist to fulfill the mission or goal of the airport. It is an airport's mission statement that forms the basis for all activities at the airport, including training. Education and training efforts must be directed in such a manner that the airport *organization* can accomplish its mission and goals. This focus on the purpose of the organization entails looking at what an airport does and then describing the types of things the organization should be doing.

ICAO, through its SARPs, identifies training and record keeping as a means of demonstrating compliance with agreed upon regulations and satisfactory operation. Together, they reflect the safety oversight system in place at the airport. Additionally, labor contracts will often contain a clause for the employer to provide educational opportunities or training of labor members.

Education and training are often viewed as one and the same. However, scholars will point out a distinction between the two. Training is a response to a need and should stem from gaps in knowledge or performance. Training is performed as a short term focused response to organizational and individual job task needs. A training need will exist when an employee's performance differs from what the situation or task requires. More specifically, a training need exists when a current employee's knowledge, skills, or attitudes should be changed to help bring about desired performance. In general, training prepares individuals to do their current jobs.

In contrast to training, education provides a broader, more generalized acquisition of knowledge and development that prepares an individual for a future job or position. Education also enhances the ability of an individual to understand and appreciate the larger perspective of how things work in their organization and in the world. It is educational development that allows a person to understand how they fit into the broader context and meaning of airport operations and it promotes overall intelligence about how things and people work and function. For customer service oriented airports, both education and training are necessary.

EDUCATION AND TRAINING IN THE AIRPORT ENVIRONMENT

From an organizational standpoint, the environment in which airports operate is one of turbulence and uncertainty. Additionally, airport management constantly faces pressures and demands from the government, traveling public and users of the airport. To cope with this environment of political, social, regulatory and economic forces, airport staff must maintain a high degree of flexibility and productivity. Education and training help to provide the means by which airport personnel can optimize operations. It has been found that a better-trained work force will be more productive (Cocheu, 1990; Wexley & Latham, 1981) and provide higher quality services (Gilbert & Parhizgari, 2000).

Other studies have shown that the more training and education an individual receives related to his or her job, the more satisfied and motivated he or she is (Rush, 1987). Lawler observed that a highly motivated and satisfied work force tends to be more stable and better able to adapt to changes (Lawler, 1987). Employees also want to feel in control of their work. When their skills and knowledge are increased and alternatives for doing things differently or better are known, employees have an increased ability to cope with the pressures and demands of the workplace (Duncan & Weiss, 1979).

The environment in which an airport operates lends itself to many training and educational opportunities. For instance, the Hartsfield Atlanta International Airport provides more than 100 development and training opportunities annually to its employees and tenant service providers to enhance their professional, personal and organizational development. The airport environment also presents many challenges and problems. Questions to answer include: What kind of training and education should we do? When should we train? How should we carry out training? In many respects, airports are no different in their general training requirements than other organizations in business and industry. However, airports have

specific needs and skills requirements that cannot be provided by regular training organizations.

For instance, specialized training would focus on areas such as airfield inspections, pavement maintenance, ground vehicle operation, airfield lighting and maintenance, tower control and operations, hazard awareness, construction monitoring, security, fueling, fire and emergency response, snow removal, wildlife mitigation, terminal operations, and baggage system handling, to name a few. Each of these would have specialized application to an airport and require specialized training.

The airport operating environment also requires administrators, managers, maintenance and operations personnel to have an overall understanding of many different aspects of airport operation, to include how all their specialized area fits into the larger frame of operating a world class airport. This larger understanding comes from having education sessions that provide a broad perspective of how an airport system is interdependent and interrelated to the aviation system. Achieving understanding of how each area of an airport impacts the other and how the airport then impacts other businesses and the community is the goal of broad education.

Determining and analyzing training needs is the starting point for all training efforts. Needs analysis is the collection of information to determine whether there is a gap between current performance and expected performance (Rummler, 1987). There are different ways to determine the performance or need gap. This information can be culled through five primary methods: interviews, documents, surveys, observations, or focus groups (Wexley & Latham, 1981). Analyzing and identifying the gap that may exist between what the airport organization is supposed to be doing and what it is doing points toward areas for education or training.

Unfortunately, airports do not generally have the luxury of skilled trainers or resources to conduct or fulfill all the airport's training needs and requirements. As a result, personnel within the organization who frequently do not have a background in education or training methods conduct much of the required training on a piecemeal or as needed basis. This circumstance may result in a poor or ineffective training process because successfully proven training and education procedures are not used. The improper or nonexistent training and education of airport personnel is often identified as one of the major factors that contribute to the shortcomings of airport operations.

ICAO emphasizes the importance of civil aviation training by initiating projects that support the training activities of its Contracting States. ICAO's Aviation Training Program assists Contracting States in establishing and/or developing their own civil aviation training capability by providing training opportunities abroad and by providing guidance on training curriculum. Other organizations, such as the International Association of Airport Executives (IAAE), International Air Transport Association (IATA), universities, and private organizations or individuals can provide primary assistance as well.

One important principle under which the ICAO training program functions at an airport is that aviation training is the responsibility of the Contracting States. It is because many States are now starting to privatize their operations that ICAO believes the safety oversight responsibility of the airport organization may be compromised. For this reason, Amendment 4 was adopted to ensure that safety management systems continue to remain in place and are upheld. As a note, airports in the United States of America (U.S.A.) serving domestic and international air carrier operations have been required to be certificated since 1976.

EDUCATION AND TRAINING FOR WORLD CLASS AIRPORTS

During the 1990s, several new international airports opened around the world. In particular, two were beset with major opening day snafus that otherwise spoiled the accomplishments of having the airports constructed. Other airports, both new and old, have experienced increases in operational errors or delays in responding to customer service requests.

The Incheon International Airport Corporation (IIAC), the organization charged with building and operating the new airport that superseded the aging Gimpo Airport in Seoul, Korea, was one airport that was keenly aware of the problems that can beset new airports. They had studied the earlier snafus and startup problems at other airports and were determined to avoid similar startup problems.

In conducting analyses as to why previous airports experienced the difficulties they did, IIAC officials concluded it was because of two basic underlying reasons: a) the various operational systems of the airports were not adequately tested before opening, and b) the personnel were not properly trained to manage the operations or handle problems that did arise (H.J. Kim, personal communication, April 13, 2000). IIAC sought to address the later issue by engaging several internal and outside training institutions to better prepare their employees for the opening. They did this

because their goal was (and continues to be) to operate a world-class airport.

IIAC had a successful opening in May of 2001 and is off to a good start toward meeting its goal (Hiscock, 2002). Their success had been due in large part to senior management supporting the initial training and education of all of its employees in every discipline. Broad educational sessions coupled with specific system and operational training were conducted using several means. After the opening, IIAC officials continued to provide the educational and training experiences necessary to maintain their opening day success (Quilty, 2001).

IIAC understood the value of education and training in order to achieve world-class status. Other airports attempting to remain or increase competitive advantages on the global playing field are recognizing the same. In April of 2002, the Indian government came under world scrutiny for the way in which their airports were managed. In response to that criticism, Civil Aviation Secretary K. Roy Paul announced the preparation of a strategic master plan for developing and modernizing all airports in the country in order to reduce political interference. To do so, however, he said the skills of the Airports Authority of India would have to be upgraded so as to equip it for overall management of world-class airports (NDTV, 2002).

The Hartsfield Atlanta International Airport has as its mission statement to become the world's best airport by exceeding customer expectations. In accomplishing this mission, the airport recognized the need to have people demonstrate the skills, knowledge, abilities, and motivation necessary for achieving recognition as a world-class airport. They do so by expending approximately \$18,500 per employee annually in training, either through onsite training and education or by outside tuition reimbursement (C. Alston, personal communication, June 20, 2002). The programs offered cover management development and education topics as well as specific skill training. The end result is that Atlanta was rated best in overall passenger satisfaction by the IATA for 2001 for mega airports handling more than 40 million passengers a year (Hiscock, 2002).

Throughout the U.S.A., training and education is a legal requirement at airports. The U.S. Federal Aviation Administration (FAA) places emphasis on the subject of training in federal regulation 14 CFR Part 139 under Sec. 139.303: "Each certificate holder (airport) shall maintain sufficient qualified personnel to comply with the requirements of its airport certification manual or airport certification specifications and the applicable rules of this part" (FAA, 1988).

There are specific sections within the FAA regulation that address training, such as rescue and fire fighting, basic emergency medical care, handling and storing of hazardous substances and materials, fueling, snow removal, low visibility operations, emergency plan implementation and wildlife hazard management. To strengthen its emphasis on training and education, the FAA issued in 2000 a notice of proposed rule making (NPRM) for modifying Part 139 that upon enactment will require the specific training and education of inspection personnel (FAA, 2000).

Throughout the current and proposed FAA regulations, the words *shall include procedures* are found. Procedures must be communicated and explained to individuals to ensure compliance. Under the terminology, airport procedures can be viewed as the framework or infrastructure that brings together personnel, equipment and facilities to accomplish airport organizational goals. Airport policies and procedures form the basis for the development of a training program. Together, policies and procedures represent the safety management system of an airport and are indicative of what ICAO seeks to have its members implement.

Poor employee or organizational performance can often be attributed to employees not following proper procedures, or by not having the proper tools, materials or equipment available to adequately perform the job. If airport management is not prepared to consider changes in the work environment to support training, or fails to provide a commitment to training and education due to budget constraints or other factors, then management cannot expect to meet the world-class standards or goals of the organization. There has to be an organizational and resource commitment to conduct education and training for an organization to be successful (Cresswell, 1989). Training and education are not one-time activities that organizations do, but rather must be part of an ongoing process that has management commitment and emphasis.

CERTIFICATION OF AIRPORT PERSONNEL

As noted previously, education and training were important considerations for the IIAC. IIAC also was looking to achieve possible certification of its personnel as a means for demonstrating its airport would be operated by trained individuals and as a means for continual improvement and implementation of ISO processes. Certification, by definition, is the voluntary process instituted by a non-governmental agency in which individuals are recognized for advanced sets of skill or knowledge (Shenenberg & Smith, 1999). The purpose of certification is to inform the public that selected individuals have demonstrated a particular

degree of competency. IIAC's search for certification led it to the American Association of Airport Executives (AAAE) as having the only program that offers the accreditation and certification of airport employees globally.

AAAE is the largest professional organization for airport executives in the world, representing thousands of airport management personnel at airports in the U.S.A. and internationally. AAAE's goal is to help airport executives fulfill their responsibilities to the airports and communities that they serve.

There is an International Association of Airport Executives (IAAE), an affiliated AAAE organization, which exists to advance airport management education and professional development across the globe. In carrying out its mission, AAAE and IAAE conduct numerous seminars, conferences, and training workshops in the U.S.A. and the world.

AAAE conducts two key education and training sessions for airport operations personnel. They are known as Airport Operations and Safety Schools (ASOS), which are either Basic (B-ASOS) or advanced (A-ASOS). The basic course is an instructional classroom approach to the dissemination of safety related material, while the advanced course uses more group activities and case studies in the classroom environment as an approach to improving airport problem solving.

AAAE is also the largest organization that has an accrediting and certifying process for airport personnel which attests that they have met a recognized skill and/or knowledge standard. There is both an American and an International process. For accreditation, the process involves a management thesis paper, a comprehensive written exam, and a final oral exam before a panel of accredited executives. A person passing the full accreditation process is recognized as an Accredited Airport Executive (A.A.E.).

The U.S.A. written and oral exams utilize a set of fifteen different modules which cover a wide range of airport-related topics and represent the body of knowledge reasonably expected of an airport executive to manage an airport (Quilty, 1999).

Both the U.S.A. and international accreditation processes are available only to those individuals actively engaged in the management of airports. For individuals who do not meet the basic airport employment experience requirements or who may be engaged in airport-related activities such as consulting, engineering, or service provider, those individuals can demonstrate their knowledge and affiliation to the industry through the Certified Member (C.M.) program. To become a C.M., an individual must

pass the same comprehensive written exam, as an accredited member must pass.

For the international certification, a set of 10 individual modules were developed that reflect a similar body of knowledge as the 15 modules in the U.S.A. version, but which incorporate ICAO requirements (Quilty, 2000). A listing of the module topics for comparison purposes is provided in tables 1 and 2.

The difference between the two sets of modules lies in the more evolved aspect of aviation legislation and regulatory requirements in the U.S.A. as compared to other nations. For that reason, an international certified member course and the 10 related modules are customized to the individual airport for the specific country.

Table 1. AAAE U.S.A. Accreditation and Certified Member Modules

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1. Introduction to Airports and the Federal Aviation Administration
 2. The Management Functions
 3. Management Roles, Theories, Motivation, and Communication
 4. Airport Capacity and Delay
 5. Air Traffic Control, Airspace and Navigational Aids
 6. Environmental Regulations
 7. Airport Noise and Land Use Compatibility
 8. Financial Management and Accounting
 9. Airport Fees, Rates, and Charges
 10. Airport Capital Development and Funding
 11. Airport System Planning and Airport Master Planning
 12. Airport Layout Plans
 13. Terminal Planning, Design and Operation
 14. Airport Operations and Federal Aviation Regulation Part 139
 15. Response to Emergencies and Airport Security
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Table 2. AAAE International Accreditation and Certified Member Modules

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1. Introduction to Airports and Management
 2. Airport Capacity and Delay
 3. Airports and the Environment
 4. Airport System and Master Planning
 5. Air Traffic Services, Airspace and Navigational Aids
 6. Airport Finance and Economics
 7. Airport Design and Layout
 8. Airport Terminal Planning, Design and Operation
 9. Airport Operations
 10. Airport Emergency Response
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The module format for the exam and reference material was developed because of the need for material that could be readily updated to reflect changing airport regulations and operations. The format also allows for easy dissemination or training of a single subject. It should be noted that the AAAE and IAAE certified member process is restricted to defined subject area knowledge as demonstrated by a written exam. Airport experience does help considerably in successful attainment of the credential. Full accreditation through AAAE or IAAE balances the academic knowledge exposure of the certification process with the application of that knowledge and skill through experience.

There are many different education and training methods in existence for airport personnel. Without a needs assessment, there is no simple way to decide which method is best in any one situation. An individual or organization versed in providing a structured learning environment can be of value. And in keeping with efforts to be considered a world-class airport, many airports strive to become ISO 9000 certified for their processes and procedures. Integral to such certification is the continual training and education of its employees in order to provide quality management services and continuous process improvement to ensure that its products and services conform to the customer's requirements. Therefore, an education and training program that leads to the certification of airport personnel can be of particular importance to an airport, whether or not they are pursuing ICAO or ISO 9000 certification. The certification can represent to the world that the airport values and encourages a world-class operation.

CONCLUSION

Airports are becoming more complicated and sophisticated due to advancing technology and user demands. The environment in which airports operate is one of turbulence and uncertainty. To cope with this environment of political, social, regulatory and economic forces, airport staff must maintain a high degree of flexibility and productivity. These qualities are achieved through the continual education and training of employees and customers.

The objectives of education and training programs are to improve individual *and* organizational performance. Education and training are planned efforts to improve individual and organizational behavior and knowledge. Professional competence is attained when knowledge is acquired through training and education efforts, skills are developed through practice and experience, and there is a continuous application and

evaluation of these knowledge and skills as they apply to the work environment.

For organizational effectiveness, the airport organization must be committed to having and conducting education and training programs and to providing the necessary resources to accomplish its mission and goals. In carrying out initiatives to have a world-class airport, airport administration should consider as a necessity the establishment of educational and training programs that will support their processes and procedures. Certification of airport personnel is one means to obtain a more knowledgeable workforce to accomplish that end. Certification of airport personnel brings together the knowledge and experience of the whole airport industry for the benefit of the individual, the airport organization, and the community in conducting safe airport operations.

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