

Next Generation Of Aviation Professionals Symposium

Using and Adapting Technology



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INTRODUCTION

Before looking to the future , We should answer an important question as a basis for the approach and methods. This question is whether we look to future just to predict and anticipate how the future will look like and try to cope with the anticipated concepts of future or we look to the future to formulate and shape it in order to build our future .

The positive vision for the future is based on the importance of participation in establishing and building the future .



INTRODUCTION

Adopting the positive view in our looking to the future and selecting to participate in building our future means the selection of strategic thinking.

Strategic Thinking focuses on access to the rational imaginary target and subject, and take into account a comprehensive view of the surrounding environment.

It studies all the expected elements of success as well as principles, values , goals, and resources .

Strategic thinking considers all the skills necessary to achieve the objectives in good quality and efficiency to reach highest degree of safety based on Scenario planning methodology .



Background



Organizational Development as a concept has passed through three phases reflected the strategic thinking of each stage of the evolution of thoughts as follows :

1 - *Bureaucratic concept developed by Max Weber in 1947*

It is a concept based on identifying the authority lines and sequencing in command within a hierarchy manner of fixed procedures to determine the ways of work .



Background

2 - Management by objectives and results developed by Peter Drucker in 1964

This concept represented a revolution and breakthrough in the development of behavioral sciences and organizational behavior in the administration and through the use of the principles of management by objectives.

3 - Finally, the concept of learning organizations developed by Peter Sang 1990

The Learning organization is an organization in which individuals use learning to reach the goals.

This concept represents a fundamental turning point in the activities of organizations, This concept represents a continuous source of learning for development .



Background



We must consider the properties of the current era:

- **Just continue to do what is usual without developing or updating may be a risk in today's rapidly changing world.**
- **We must focus on performance , learning , development, creativity and innovation, not just to achieve the objectives**
- **If the learning and training approach is vital and important for various fields of life , it is more and more necessary, in the field of aviation, which is the most obvious mirror that reflects technical progress and modernization.**

Background

While the first decade of the twenty-first century is approaching its end and after the evolution of the concept of learning organizations since more than two decades, we believe that the learning only is no longer enough for organizations in the pursuit of excellence, but organizations should strive for excellence trying to adopt ways verify that makes learning faster, deeper and more valuable in work .



Background



- **It is necessary for training organizations to follow roads and paths focusing to provide aviation community with efficient and effective products and services achieving the desired progress .**
- **The organizations that look for efficiency and effectiveness should focus on increasing the safety and security benefiting of distance learning and electronic learning technologies**

Concept of Technology



- **Technology can be viewed as the tools and methods that are used for the purpose of the application of science, to complete human capabilities, and to meet the needs arising under the environmental conditions and historical stage .**

It can also be looked at as the application of scientific knowledge, or the art of using science .



Concept of technology



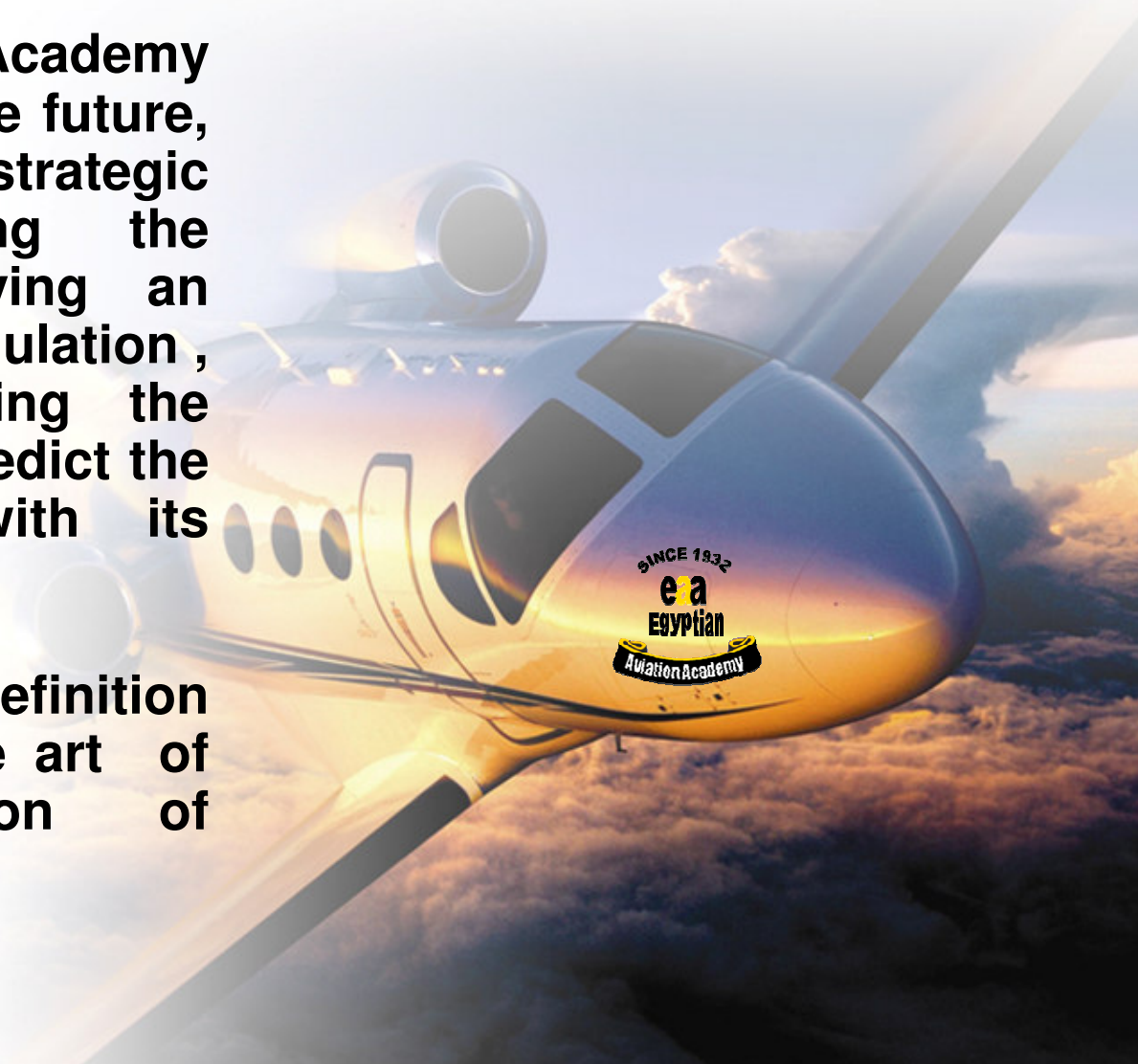
- It is clear from the different concepts of the technology that it is not a theory as it is concerned with the practical devices and methods that complete lack of capacity and knowledge .
- The technology then is the product of scientific development .
- Technology is also a means of answering the needs of society.



EAA view towards Future

The Egyptian Academy positively looks at the future, based on the strategic thinking recognizing the importance of playing an active role in the formulation, shaping and building the future, not just to predict the future to cope with its requirements.

EAA believes in the definition of technology as the art of practical application of Science in Industry.



EAA view towards Future



EAA focuses on the growing use of technology and (*adaptation*) in believing that that technology is a beneficial approach for all aspects of life including training activity.

EAA also applies the policy of using and adapting the use of technology for training purposes aiming at increasing the efficiency and effectiveness of the training process .

Technology is a good mean for formulating and shaping the future as the aviation trainees at the moment , are leaders and managers of aviation in the future .

Adapting Technology in EAA

EAA started with an important question, namely:

- ❖ **How do we plan to maximize the academy use of technology in the field of training and how to adapt technology to serve the purposes of training in various areas ?**
- ❖ **If we move to maximize the use of technology to be adapted for training purposes, the Academy has given applied models in this regard .**
- ❖ **The following slides will clarify some examples and models on the use and adaptation of technology in the field of training in EAA .**



Adapting Technology in EAA

The three-dimensional Simulator 3 D - 360 degrees , which was supplied specifically for the training of the control tower air traffic management, the Egyptian Aviation Academy adapted to use of this facility for the purposes of other training programmes , including training on aviation crisis management .

The crises that may face aircraft on the ground or the vicinity of an airport can be simulated in the facility to train on the fundamentals and procedures of dealing with and managing the situation. The crisis is illustrated on the simulator indicating the different roles of the parties involved in the crisis management in a role playing scenario.



Adapting Technology in EAA

In the framework of planning for the multi crew pilot license MPL and aiming at saving time and cost for airlines using the qualified pilots of the academy graduates , the Academy adapted the technology through the use of various types of simulators to reduce training time with higher rates of efficiency and effectiveness at the same time.

This helps reducing the period of practical training using simulators and take advantage of distance education and e-learning through the adaptation of technology for more specialized training with the completion and the achievement of training objectives in a less period of time providing staff with more efficiency and effectiveness with higher degrees of safety and security .



Adapting Technology in EAA

- **EAA uses modern instruments and equipment of the aero-medical centre in the implementation of specialized aviation medical training programs in addition to the academic studies for practical application .**
- **An example of that is the use of aeromedical centre equipment in the practical training of aviation doctors .**



Adapting Technology in EAA

- Another example is the use of data derives from CT scan, with statistical and quantitative methods in the analysis for the forecasting and early detection of health problems that may face the flying crew members in the future .
- This helps taking preventive actions using inhibitor treatments for the occurrence of disease or initiate early therapeutic intervention to stop the deterioration of the situation in order to preserve human resource which is the cornerstone of the safety and development of aviation operations .



Using and Adapting Technology in EAA

- **EAA** has already performed an academic applied study using the data and results provided by a CT Scan, which was installed specifically for the medical fitness of flying crew members
- The information available, resulting from the use and adaptation of technology has become an effective tool that helps to improve output and increase the degree of safety and the preparation of scenarios to address different situations.
- This adaptation increases the rates of safety as a tool to assist in clarifying the data and relationships to become a gateway for rational regulations and appropriate intervention to avoid loss or waste of human resource .



Challenges Facing the Use and Adaptation of Technology

- **Technological development in the area of training creates some questions and challenges that require cooperation and coordinated efforts at the regional and international levels to formulate appropriate solutions including the following:**
- **Technology in the field of aviation training needs huge investments while it has no fast economic effect in view of a quick financial returns. In the other hand , aviation training is so important for the assurance and improvements of aviation safety and security .**



Challenges Facing the Use and Adaptation of Technology

- **The approach of the academies and training centers should be based on a positive look at the future using and adapting the technology as one of the most important tools for building and shaping the future.**
- **Training is viewed as an organized activity aiming at developing knowledge , skill , capacity and capability to influence attitudes and behavior in the desired direction to achieve the objectives .**



Challenges Facing the Use and Adaptation of Technology



- ✓ **The challenges facing the use of technology require the combined ideas and efforts to develop appropriate solutions, including maximization of the benefits of technology through the adoption of the advanced training centers by the International Civil Aviation Organization .**
- ✓ **Those centers that reached reasonable level of developing its capabilities and adapting the use of technology in the training process can be recognized by ICAO to become specialized centers and bright spots of radiation world wide.**

Conclusion

- ✓ **Integration and exchange of experiences and cooperation between academies and training centers is vital for better training environment .**
- ✓ **It is recommended that ICAO set up a scenario plan for recognizing specialized training centers that have been modernized and became able to maximize the use of and adaptation of technology, is the way to raise the rates of efficiency in the training and qualify instructors and other training staff .**



Conclusion



- ✓ **ICAO Recognition of specialized centers can maximize the use and benefits of technology in the field of training to increase the efficiency and effectiveness of the training process in order to obtain the highest levels of safety and security .**
- ✓ **Aviation Training academies should make use and adaptation of technology aiming at achieving safe , efficient and economic operations .**

Conclusion

- ✓ **The use and adaptation of technology allows sufficient flexibility needed to expand the areas and scope of using training facilities and technology .**
- ✓ **The demand for training in aviation is increasing in manner that exceeds the capabilities of existing academies and training centers, and this context does not call for competition but makes cooperation, coordination and integration between training centers is an urgent need through the organization and coordination of thoughts before the act .**



Conclusion

- ✓ *It is so important to take advantage of the great technological advances in the field of training for the purpose of developing aviation training centers*
- ✓ *Benefiting of technology shall enable training centers to efficiently and effectively prepare the next generation of aviation professionals and to meet our needs and expectations increasing the efficiency and effectiveness of learning and training process .*



Conclusion

Our view for the next generation in the field of civil aviation starts from the look to the future with an approach focuses on participation in building and formulating the future based on optimizing the use and adaptation of technology for the purposes of high efficiency and effectiveness with the highest levels of safety .



Egyptian Aviation Academy



**THANKS FOR YOUR
ATTENTION...**

