




CAE

AVIATION TRAINING

# Continuous Professional Development (CPD) for Pilots

A photograph of a pilot's perspective from the cockpit of an aircraft. The view is looking forward through the windshield at a bright blue sky with scattered white clouds. The cockpit instruments, including multiple digital displays and analog gauges, are illuminated. The pilot's hands are visible on the yoke, and the overall atmosphere is professional and focused.

A white paper from  
Emirates and CAE

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# Introduction: Objective of Flight Training

The objective of flight training programs around the world is to develop competent pilots. Over recent years with developments in technology, especially in the flight deck, the operational role of the pilot has changed from manually flying the aircraft to that which requires monitoring aircraft systems and intervening when required. Therefore, the competencies required of the pilot have shifted to those related to so called Non-Technical Skills (NTS) which may require a shift in the means and methods for learning and developing these skills.

The situation has been compounded by the pilot community of today having a broader career base available to them: A career of simply flying the line will now most likely pivot to another career of working in other aviation system functions, including managing the people and systems that are required for the smooth running of the industry. The industry is also on an apparent trajectory towards single pilot operations. In the distant future there may even be a time when aircraft are fully autonomous and the pilot in the air is regarded as being surplus to needs.





# The Current Mindset: Achieving the Standard

When a commercial airline pilot trains to fly a commercial air transport aircraft, the pilot will typically spend one to three months of a total of 12 in the classroom and simulator before a period of line training on the aircraft. Once training is complete, the qualified pilot can exercise the privileges of their 'type-rating' without restriction.

The pilot then typically returns to the training centre every six months for a Licence Proficiency Check (LPC) / Operator Proficiency Check (OPC) which is essentially a revalidation of their previous training. The LPC / OPC may include online learning and exams, classroom learning and revalidation and training in a flight simulator.

The European Aviation Safety Agency (EASA) defines a pilot as 'inexperienced' on an aircraft type until they have achieved 100 flight hours and flown ten sectors within a consolidation period of 120 consecutive days. (EASA, 2016, p. 123). However, after this time, technically speaking the pilot could be assumed to be an expert. Therefore, although Recurrent training aims to achieve and then uphold standards there is little aim beyond that to improve pilots. This is a deep mindset, which even the industry itself does not seem to be fully aware of. It is a perspective of what is good for the organisation, more than what is good for the individual. Looking at training through this lens also probably affects pilot perceptions of training, as the focus is more on achieving standards (i.e., not failing) than on improvement.

The movement of Training Philosophy away from Manoeuvr to Competence Based Training and Assessment (CBTA) has opened-up the possibility of a change in Philosophy. However, legacy thinking is still introducing barriers towards the Philosophy being realised. Therefore, to address this situation requires both a change in mindset and significant investment from both the individual and their employer.

Another potentially important driver for a change in how pilots will train in the future is the gradual transition of the industry towards Continuous Recurrent Training. In other words, rather than undertaking training at programmed fixed windows throughout a year, delivery will be just-in-time and the content focussed upon the training needs of each individual and/or group of pilots at any given airline.



In this case, the standard list of regulatory mandated items would be replaced by training to address operational issues shown to be of most significance in a preceding time-period (via analysis of operational and training data sources).

It could also be envisioned that all Recurrent Training would not need to be completed in a Full Flight Simulator (FFS) as is currently the case. With the advent of Virtual and Mixed Reality training devices, a large proportion of the recurrent training footprint could be delivered via other training devices

beyond the FFS. When the training of Non-Technical-Skills is of focus, the level of fidelity of the simulation device will be far less important than the quality of the training scenario being delivered. Thus, in the future, a low fidelity training device such as a tablet computer may be wholly appropriate as a means of delivering experiential training.

As the range of issues involved with Continuous Recurrent Training are potentially very extensive, this topic will be expanded upon in a subsequent paper of this current series.





# The Way Forward: Continuous Professional Development

The authors therefore advocate for aviation training shifting its mindset to focus upon 'continuous development' or, in other words, "to make each pilot the best they can be". This was previously achieved through experience but with operational safety at current levels this may no longer be the case. Redirecting training from upholding standards to continuous improvement of standards requires a change in training philosophy, shifted away from compliance towards competence.

The shift would include individualisation of training goals and a focus on what the trainee can deliver rather than what they can absorb. In practice it may include increased trainee self-debriefing, trainee presentations on different topics, groups of trainees working through tasks etc.

Continuous development is not inherent to the aviation industry, achieving standards for performance is the aim of every flight training program. This differs to most learning/educational environments where the aim is to progress to continuously higher states of competence. Continuous Professional Development (CPD) is defined as "Continuing, or continuous, professional development (CPD), can be broadly defined as any type of learning you undertake which increases your knowledge, understanding and experiences

of a subject area or role. CPD is an ongoing and planned learning and development process. Other industries already actively engage in professional development, such as engineering, medical and business sectors, and CPD generally occurs as part of routine on the job work activities. CPD can be both formal and informal and can cover a variety of activities. Specific examples of different types of CPD activities could include:

- Academic study to enhance formal qualifications in your field of interest.
- Expanding your knowledge through different forms of media
- Mentoring and being mentored.
- Being an Instructor and/or Examiner.
- Involvement in a Professional body or special-interest group.
- Actively practising or developing specialist skills
- Giving presentations at conferences and seeking feedback
- Organizing specialist groups on key topics of interest.
- Other forms of volunteering that help develop your competence in a specific area.



# A Process for Continuous Learning and Development

In terms of a Process for Continuous Professional Development (CPD), much can be learned from the Professional Engineering Institutions and their guidance on 'Continuing Professional Development' (CPD). For instance, the Institution of Engineering and Technology (IET) has created the acronym TWAVES which stands for:

- Training courses
- Work experience
- Academic study
- Volunteering
- Events and seminars
- Self-study



Through undertaking TWAVES, CPD can be deployed through a process of Plan, Do, Record and Review. The IET goes onto further unpack these stages as follows:

**Plan:** Identify your short-term goals: think about what needs to happen for you to reach them. You may need to learn a new skill on a technical course, gain experience by job shadowing or take on more responsibility by training others. You might want to use your last appraisal, your resume or

your current job description for ideas. However, you do it, you should end up with a list of things to do.

Work out what steps on your to-do list need to be done first: what resources do you need (like books and courses) and who can help you? Think about how you will measure your achievements for each objective and give yourself a realistic target date. It is also worth setting a review date (say in 6 to 12 months) and putting it in your diary to give you something to work towards.

**Do:** Get all the materials, financing and resources you need together and make time in your schedule for learning. Use a planning tool to make a note of how many CPD hours you do and the type of activity you choose for each goal.

If anyone is helping you (a manager, colleague or mentor), get them on board. Don't be afraid to ask for help, just be clear about what you need and keep them updated on your progress.

Find a way to learn that suits you. Some people like to understand the theory before trying something while others like to experiment and learn in a more hands-on way. Find out what works for you - the more you enjoy what you're doing, the more you'll learn.



**Record:** Take time to reflect: After each activity, take some time to reflect on what you've learned and how it affected your approach by recording it in your logbook. Make a note of things you feel went well, any things that you could have done differently or better, and whether they met your needs or if there are other things you need to do to reach your goal. Record your CPD hours and the type of activity in your logbook and planning tool.

Go back to your logbook at regular intervals and review the knowledge you've gained: Every month or so, you should look back at your log and think about how your new knowledge will affect your performance at work, how it will make you better at your job and what you might want to change based on what you've learned. It does not have to be a chore – a few lines or paragraphs is enough – and you can always ask your mentor or line manager for their thoughts too.

If using competencies, decide which competence each piece of your learning is linked to:

Record your new level and chart your progress. Collect evidence (such as references) as you go and upload them to your portfolio so you can easily find each one.

**Review:** Use your review date to assess your achievements: When you have reached the review date you set when you were planning, give yourself some time to go through everything you've achieved so far. Look at your logbook and tick off all the goals you have reached and think about the ones still on your to-do list.

Do not forget to remove any irrelevant items and update any that need a refresh for the next few months ahead. Start planning again, move your medium-term goals to become part of your short-term plan for the next period and check in with your longer-term objectives to make sure they are up to date.





# Individual Enablers for Continuous Learning and Development

Sullenberger (2023) proposes the following individual enablers that will influence the effectiveness of Continuous Learning and Development efforts:

1. **Always Stay Curious:** Approach new experiences, ideas, and challenges with an open mind, seeking to understand and explore.
2. **Allocate Regular Time for Learning:** With regards to professional development, prioritize dedicated time for learning in your daily or weekly schedule. Treat it as a non-negotiable appointment with yourself to engage in focused learning activities.
3. **Accept Feedback:** Seek feedback from others, whether it's from mentors, peers, or experts in your field. Actively listen and reflect on the feedback to identify areas for improvement and growth.
4. **Reflect and Apply Learning:** Regularly reflect on your learning experiences and how they relate to your personal and professional life. Identify practical ways to apply what you have learned.
5. **Embrace Challenges and Take Risks:** Step out of your comfort zone and embrace challenges that push you to acquire new knowledge or develop new skills. Take calculated risks and view failures as opportunities for learning and growth.



# Summary and conclusions

For the multitude of reasons stated in this paper, every pilot should be considering how they continue to learn and develop throughout their career, whether they be a cadet or an experienced captain. Undertaking Continuous Professional Development (CPD) allows us to shape our own careers so that we are best prepared for the array of new challenges and situations that we may face in the future. Learning has no limits and those embracing CPD will benefit significantly.



# References

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## About CAE

CAE is a high technology company, at the leading edge of digital immersion, providing solutions to make the world a safer place. Backed by a record of more than 70 years of industry firsts, we continue to reimagine the customer experience and revolutionize training and operational support solutions in civil aviation, defence and security, and healthcare. We are the partner of choice to customers worldwide who operate in complex, high-stakes and largely regulated environments, where successful outcomes are critical. Testament to our customers' ongoing needs for our solutions, over 60 percent of CAE's revenue is recurring in nature. We have the broadest global presence in our industry, with approximately 10,000 employees, 160 sites and training locations in over 35 countries.

[www.cae.com](http://www.cae.com)

## About Emirates

The Emirates story started in 1985 when the airline launched operations with just two aircraft. Today, it operates the world's biggest fleets of Airbus A380s and Boeing 777s, offering its customers the comforts of the latest and most efficient wide-body aircraft in the skies. Emirates inspires travellers around the world with its global network of destinations across six continents, industry leading inflight entertainment, regionally-inspired cuisine, and world-class service.

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