



Singapore Flying College

CASE STUDY #4

The Organisation

Singapore Flying College is a Civil Aviation Authority of Singapore (CAAS) approved flight school headquartered at SIA Training Centre Singapore. Established in 1988 under the Singapore Airlines Group to ensure pilot training included the core values required for airline pilots. SFC expanded to its Western Australia base at Jandakot in 1990 due to the prevailing climate and weather conditions favoured for continuity of flight training. Airline Transport Pilot License (ATPL) ground training is completed in Singapore, with flight training conducted at its Jandakot base. The accommodation facility at Jandakot was opened in 1992.

Adapted from <https://www.sfcpl.com/about-sfc>



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Learning Objective

- Describe indication of slow decompression.
- Describe the procedures to take in the event of slow decompression.

Topic

Decompression of
Pressurised Cabin

Duration

30 minutes

Target Audience

Cadet Pilots

Number of learners

25



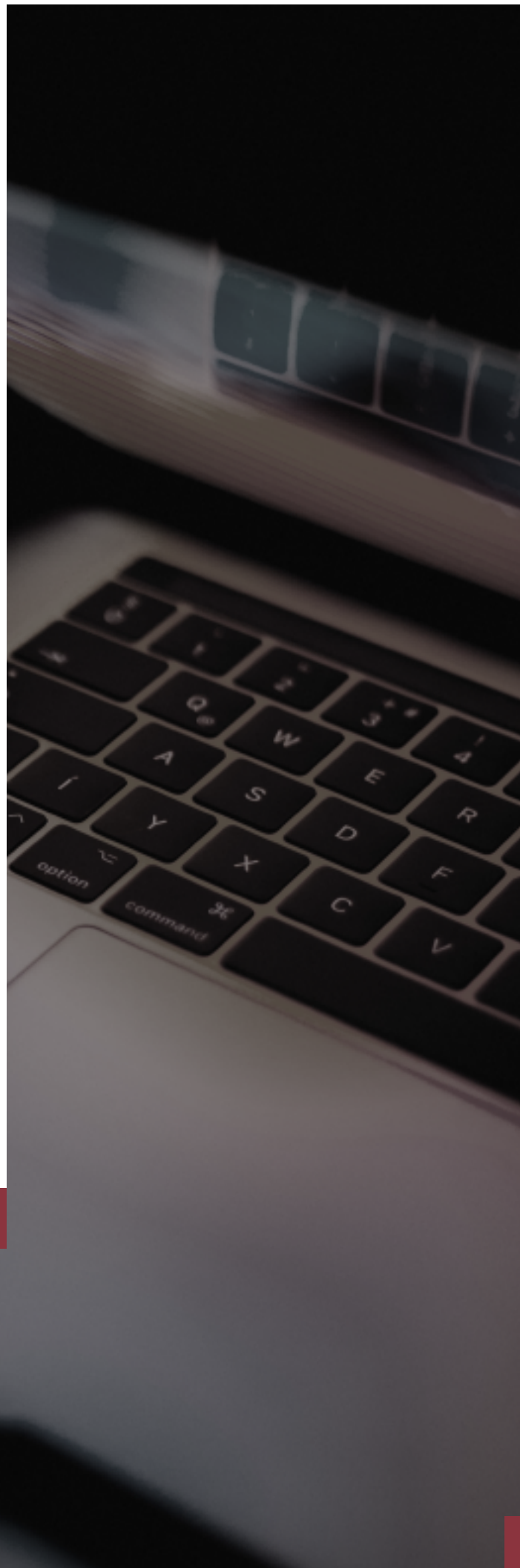
The Existing Approach

The lesson on 'Decompression of Pressurised Cabin' is part of the theoretical training that learners must go through for their commercial pilot license qualification. Currently, it is a face-to-face lesson and the educator will go through the individual slides with learners who must remember a lot of content as part of their theoretical training.

The Digital Andragogy Approach

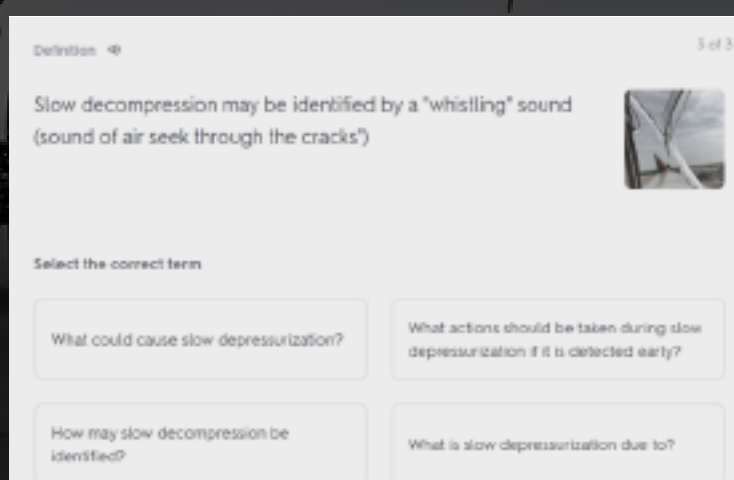
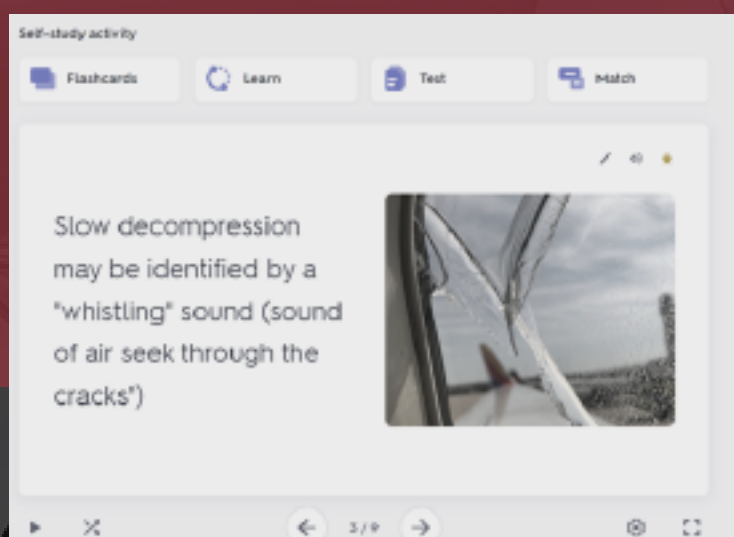
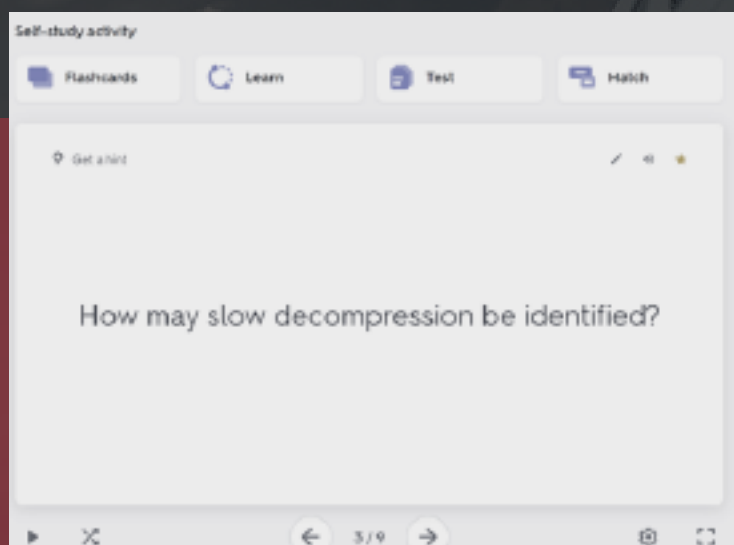
Instead of going through the content which is mostly self-explanatory with learners and may not be the best use of time in class, the in-class lesson on 'Decompression of Pressurised Cabin' was turned into an online self-study lesson using the digital andragogy approach. One of the questions considered was whether the learners have prior knowledge of the topic and if yes, whether it is helpful to start the lesson with questions that elicit their existing knowledge. They did indeed have some prior knowledge of 'slow decompression' which is the segment that was turned into online learning using the digital andragogy approach. As opposed to opening the lesson with simply a question that assessed learners' prior knowledge on slow decompression directly, they were asked to watch a short video clip featuring slow decompression with questions embedded within the different segments of the clip, the first of which was a multiple-choice question "What do you think happened?", followed by a short-answer question "Do you think this is a case of slow or rapid decompression?" and a multiple-choice question "What do you think are the causes of slow decompression?" to activate their schema. The use of a video clip with embedded questions instead of posting questions to assess learners' prior knowledge is anchored in the assumption that the former engages learners more than the latter. As such, we engaged Edpuzzle as it allows for embedding of questions within video clips.

Following this, we used Quizlet to communicate the learning content to learners using the flashcards feature. We used Quizlet instead of Cram for the flashcards feature because Quizlet allows for visuals to be presented alongside the content which can reinforce learning whereas Cram does not allow it. Also, Quizlet allows learners to learn and test themselves at the same time and this sustains their motivation and enhances their recall of what they have learned (see next page for examples). It also has an audio feature which learners can make use of if they want, and this is useful especially for learners who embrace a more auditory learning style.



This lesson could be concluded with Quizlet as it included a self-assessment component, or it could end with Wordwall which could be engaged to assess learning formally. Both assessments were in the form of multiple-choice questions as this is the format that learners are assessed at the end of their modules. For the quiz hosted on Wordwall, it was interactive as learners could choose to complete the quiz in the form of Gameshow, Open-the-box, or Maze Chase. Edpuzzle, Quizlet and Wordwall can be embedded in PowerPoint slides and presented as an online lesson.

In essence, an online self-study lesson can go beyond a collection of PowerPoint slides; it can be engaging and achieves its intent. In this case, the educator can use the in-class time to go through trickier questions with learners.



Learning Objective	Instructional Strategies	Guiding Questions (During Planning)	Additional Questions (During Lesson)	Digital Tools
<ul style="list-style-type: none"> ▪ Describe indication of slow decompression. ▪ Describe the procedures to take in the event of slow decompression. 	<ul style="list-style-type: none"> ■ Activate Schema ■ Scaffold ■ Connect Learning ■ Foster Reflection ■ Encourage Active Participation ■ Reinforce Learning ■ Evaluate Progress ■ Others 	<ul style="list-style-type: none"> ▪ Do learners have prior knowledge of the topic? If so, does it prove beneficial to initiate the lesson with questions that elicit their existing knowledge? ▪ When recall of prior knowledge or understanding is necessary, is it advantageous to draw learners' attention to it at the beginning? If so, should adult educators recap the information or encourage learners to demonstrate their recall before proceeding with the lesson? What are the assumptions of each? ▪ How can our understanding of cognitive processes of learning aid in effectively chunking and organising learning, considering the different profiles of the adult learners? ▪ How can we engage learners actively? ▪ How can we sustain learners' motivation? 		<ul style="list-style-type: none"> ▪ Edpuzzle ▪ Quizlet ▪ Wordwall

Lesson Plan

Time	Activity (Current Approach)	Time	Activity (Digital Andragogy Approach)
30 mins	The lesson on 'Decompression of Pressurised Cabin' is part of the theoretical training that learners must go through for their commercial pilot license qualification. Currently, it is a face-to-face lesson and the educator will go through the individual slides with learners.	30 mins	<ul style="list-style-type: none"> ▪ Get learners to watch a video clip showing slow decompression in Edpuzzle and answer three questions as part of activating their schema. ▪ Get learners to learn the content using the flashcards feature of Quizlet and test themselves at the same time. ▪ Get learners to assess themselves formally using Wordwall.



“SFC was honoured to serve as the test bed for Dr. Justina’s research project, the Digital Andragogy Blueprint. Her adeptness at simplifying abstract concepts made it seamless for our cadet pilots to navigate the content-heavy subject matter. The incorporation of user-friendly design and interactive elements, such as online quizzes and games, kept the cadets engaged and actively participating throughout the sessions. The presentation was impressive, leaving a lasting positive impression on all attendees. SFC is eagerly looking forward to observing the continued growth of Digital Andragogy and the substantial benefits it will bring to the learning and teaching of our future pilots.”

**Head of Ground School
Singapore Flying College**