



# EASA

European Aviation Safety Agency

## NPA updating the LOs, syllabi, examination procedures: The methodology employed

Frances CONDRON, ECQB Team Leader  
15 June 2016

**Your safety is our mission.**

An agency of the European Union





# The methodology employed

- Each learning objective should clearly indicate what can be demanded of the candidate when demonstrating that he/she meets the LO
  - GM1 FCL.310; FCL.515(b); FCL.615(b)

The **depth** or **level** of learning to be achieved during the training and the corresponding level of attainment to be examined or assessed is based on the following taxonomy. In each case, the **level of knowledge or skill** is signified by the **LO verb**.

The majority of the LOs relate to the cognitive domain. The taxonomy described by B. Bloom (1956) and Anderson and Krathwohl (2001) have been used as the standard.

The **six sequential increasing levels of required cognitive learning** are identified by the **LO verb**. Hence the lowest level 'remember' is signified by verbs such as 'state', 'list', 'define' and 'recall' ...

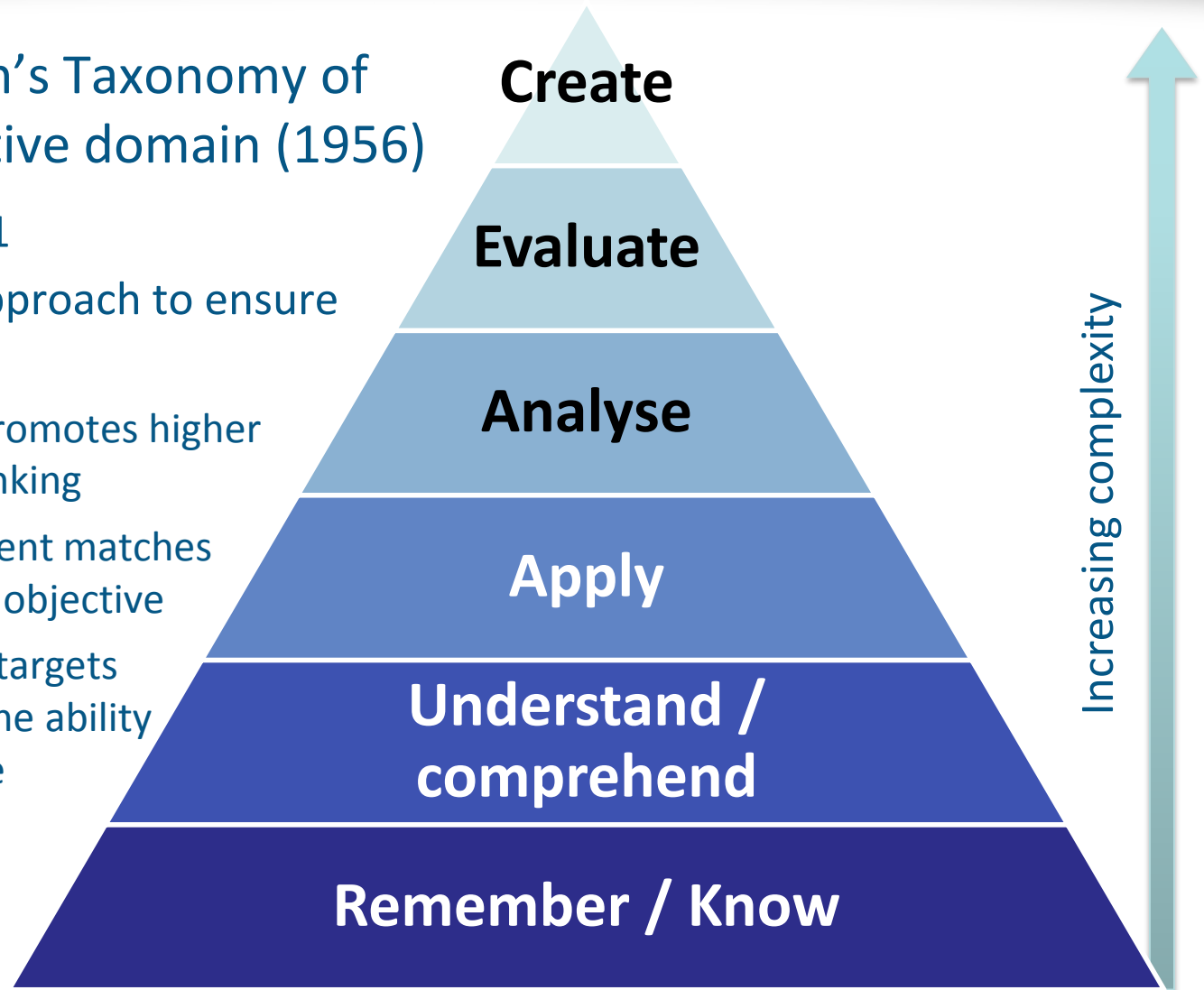
The LOs used in Area 100 KSA differ in that they require a combination of knowledge and skills...



# A framework for matching questions to learning objectives

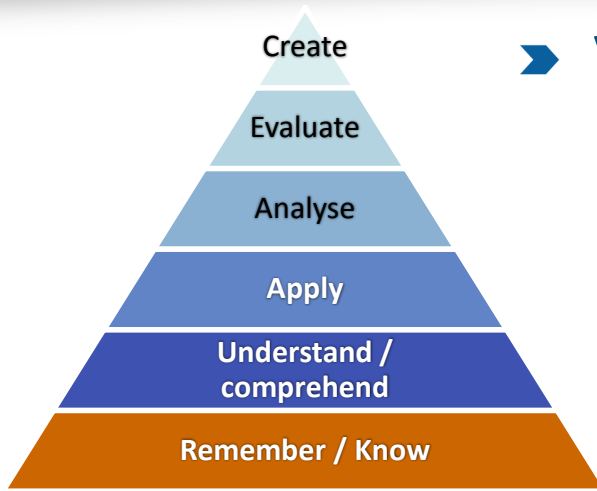
## ➤ Benjamin Bloom's Taxonomy of Learning: cognitive domain (1956)

- Revised in 2001
- Widely used approach to ensure that:
  - education promotes higher forms of thinking
  - the assessment matches the learning objective
  - assessment targets more than the ability to memorise facts





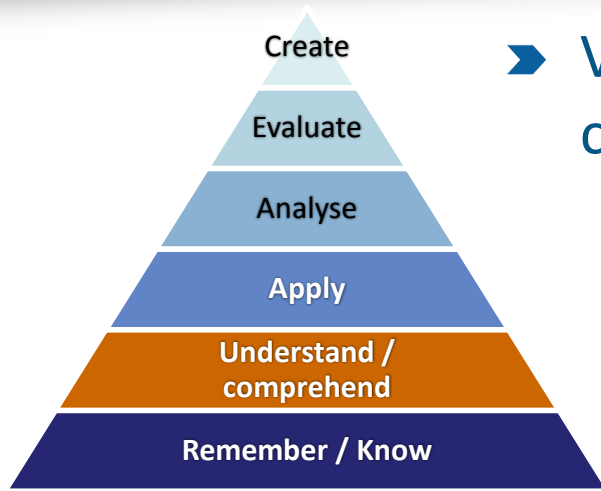
# Ability to memorise



- Verbs targeting the lowest level of mental skills
  - Define ...
  - Identify ...
  - List ...
  - Recognise ...
  - Recall ...
  - Show ...
  - State ...
- NPA 2016-03 tags certain LOs as covering background knowledge (BK) LOs
  - Candidates must meet these LOs
  - But they will not be directly examined on them



# Ability to understand / comprehend

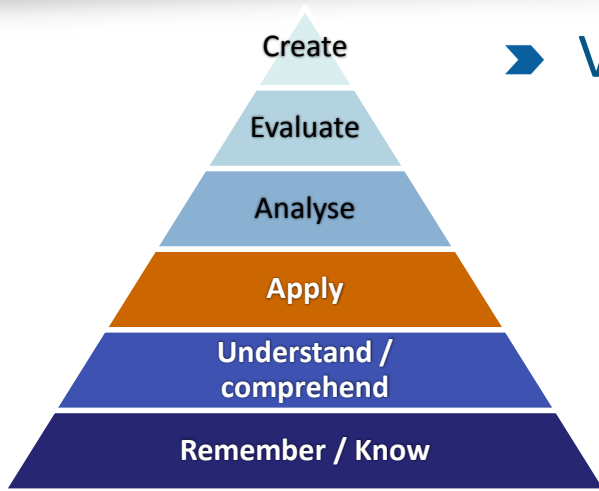


## ➤ Verbs targeting understanding / comprehension:

- Classify ...
  - Compare ...
  - Describe ...
  - Differentiate ...
  - Explain ...
  - Interpret ...
  - Paraphrase ...
  - *Calculate...*
- 
- Assessed e.g. via questions asking “what is an example of...”, simple calculations



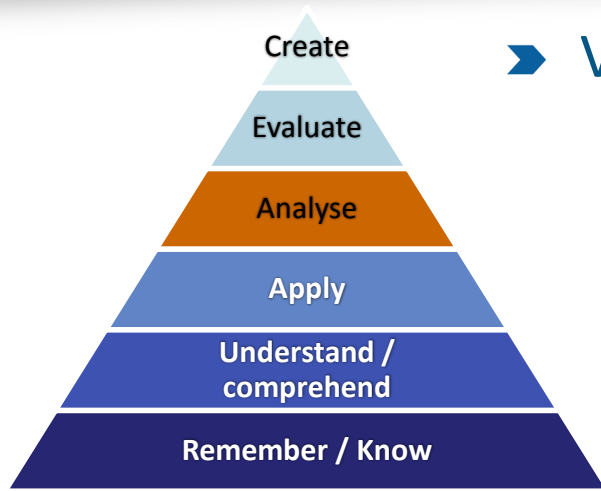
# Ability to apply what has been learnt



- Verbs that target the ability to apply knowledge
  - Apply ...
  - Calculate ...
  - Illustrate ...
  - Interpret ...
  - Relate ...
  - Solve ...
  - Use ...
  - Manipulate ...
- Assessed for example via questions requiring multi-step calculations, scenario-based question



# Ability to analyse

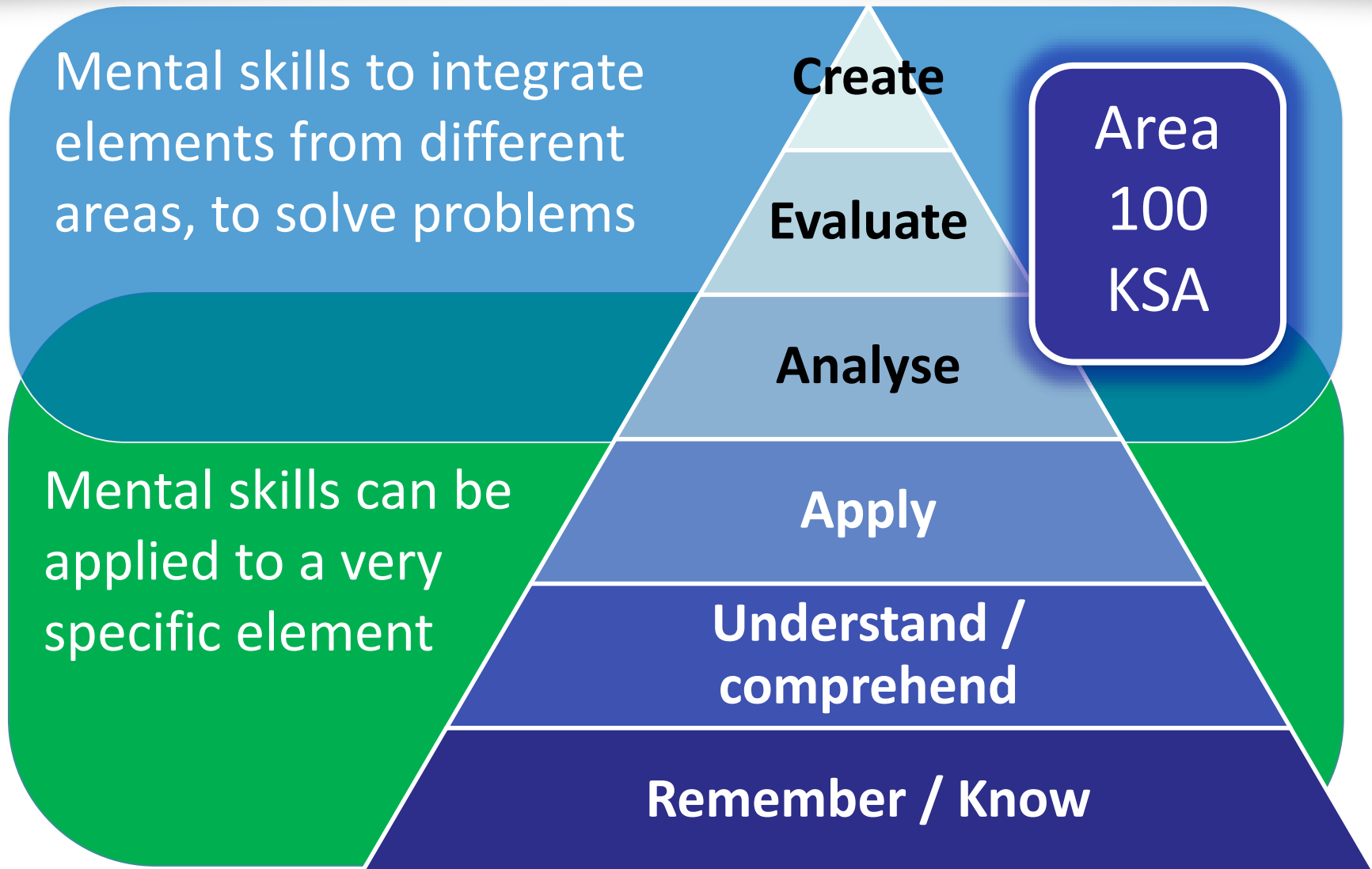


## ➤ Verbs that target analytical skills

- Analyse ...
  - Compare ...
  - Contrast ...
  - Deduce ...
  - Devise ...
  - Distinguish ...
  - Organise ...
  - Plan ...
- 
- This level of comprehension is difficult to assess via multiple choice questions
  - But clearly can be part of Area 100 KSA



# A framework for matching questions to learning objectives / mental skills







# Next steps

- Forthcoming from RMT.0595:
  - Guidelines on structuring and drafting syllabi items and LOs
  - ... to be made available via the EASA website
  
- For use by expert groups when identifying new LOs via future rulemaking tasks
  
  
- Rulemaking Programme 2016-2020:
  - Regular update of the LOs & syllabi in 2018



**EASA**  
European Aviation Safety Agency

**Thank you for your support!**

**Your safety is our mission.**

An agency of the European Union

