



EASA
European Aviation Safety Agency

Knowledge, Skills and Attitude – An Overview of the New Area 100 KSA

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➤ Safety

- Analysis of accident statistics shows that to improve safety requires the co-development of technical and non-technical skills (IATA)

➤ Industry

- Requires a ‘thinking’ pilot with developed core competencies

➤ The student

- Requires a relevant and effective course that meets current industry needs and utilises best practices



KSA – What is it?

- A holistic approach to pilot training that develops and assesses a pilot's:
 - Knowledge
 - Skills
 - Attitudes

- A 'cradle to grave' pilot training philosophy



KSA in ground training

- Drives a integrated training methodology that:
 - Requires teaching and student development using a range of learning styles and utilising best practices.
 - Includes a range of exercises and assessments that can be designed to address:
 - The higher cognitive skill levels, and
 - The development and assessment of pilot core competencies.
 - Interweaves principles of TEM and CRM into course design.
 - Challenges and motivates the training pilot.



Area 100 KSA - Learning objectives

- **Grouped by IATA core competencies:**
 - Application of Procedures
 - **Communication**
 - **Aircraft Flightpath Management-Automation**
 - Aircraft Flightpath Management - Manual
 - **Leadership and Teamwork**
 - **Problem Solving and Decision Making**
 - **Situation Awareness (and Resilience)**
 - **Workload Management**



Area 100 KSA - Learning objectives

➤ Plus

➤ The Airbus 9th core competence of 'Knowledge', and

➤ Sections relating to

➤ UPRT and

➤ Applied mental maths



Area 100 KSA – Learning objectives

- Addition of learning objective verbs ‘demonstrate’ and ‘show’
 - ‘Demonstrate’ means the selection and use of appropriate KSAs within a strategy to achieve and effective outcome. It signifies a high taxonomy level and would normally be assessed using multiple indicators from more than one core competence.
 - ‘Show’ means the acquirement of knowledge, skill or attitude. It signifies a lower taxonomy level than demonstrate and would normally be assessed by using a single indicator.



Area 100 KSA – Learning objectives

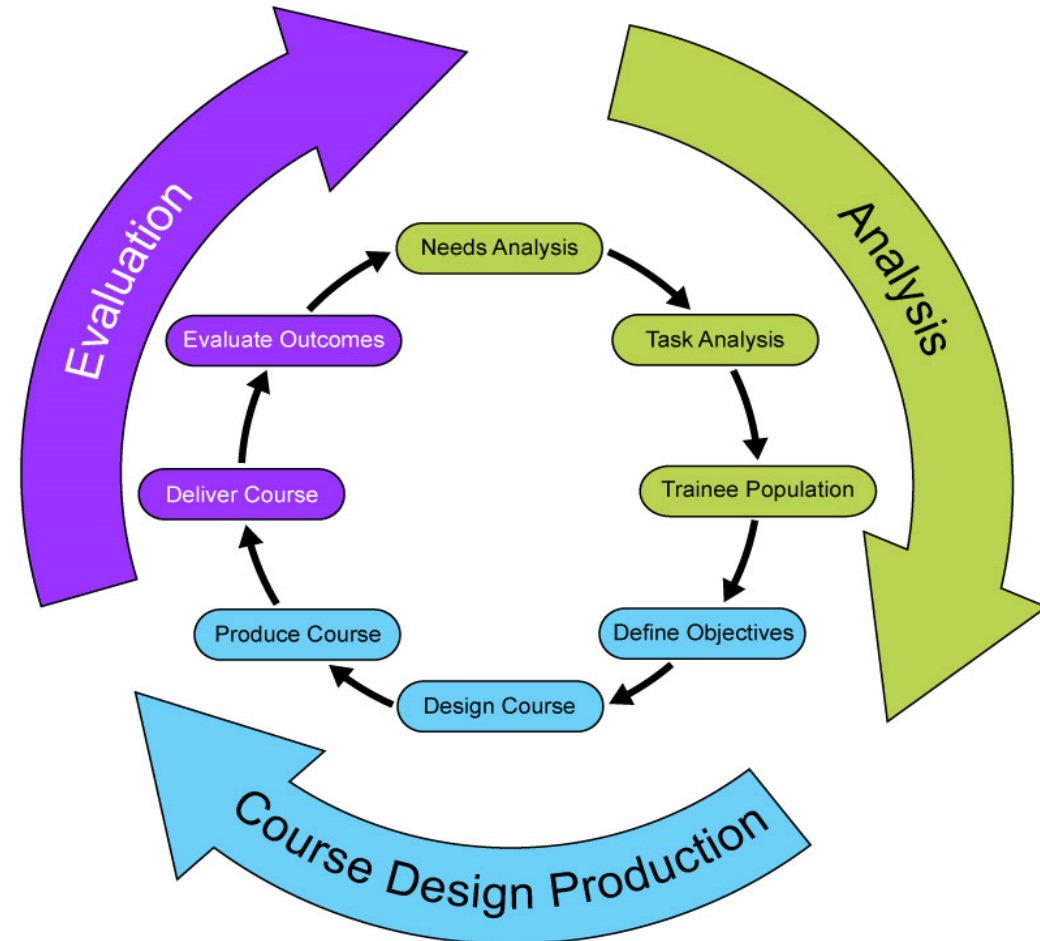
➤ Examples:

- Demonstrate the ability to complete pre-flight planning in practical exercises
- Demonstrate FMS initialisation from a given flight plan
- Show the ability to communicate clearly, accurately and concisely



AMC2 ORA.ATO.230(a) Training and operations manual

➤ Courses to be designed using systems design methodology, which is supported by an effective management system





- Lessons and exercises that
 - develop understanding and apply and relate subject material to the operational and commercial environment;
 - interweave TEM, CRM and mental maths into subject delivery;
 - develop the students' soft, cognitive and practical skills, whilst using a range of learning styles.



Examples of course exercises

Source: CTC Aviation





Examples of course exercises

➤ Plus:

- Scenario planning exercises/assessments
- Essays
- Project assignments
- Scenario interviews
- Scenario comms exercises/assessments
- Discussions
- Applied mental maths assessment



KSA assessments

- Minimum of 5 assessments of which one is KSA maths assessment
- Assessment exercises are to be designed so that overall they cover all the KSA LOs
- Assessments are to be scenario based and include individual, pair and group situations
- Assessments should have been successfully completed before the student's first attempt at their final exam(s)



KSA assessments in distance learning courses

- At least two of the assessments (excluding the mental maths assessment) should be conducted in the classroom phase of the training.
- When assessments are conducted via distance learning, the ATO should ensure that the assessment method is effective and that the student has completed the assessment.



Area 100 KSA ATO requirements

- The ATO is to provide:
 - The position and description of the assessments in their training programme;
 - An example of the written or oral applied mental maths assessment;
 - Matrix of KSA LOs covered by each KSA assessment;
 - The grading system of the Area 100 KSA assessments.

GM gives a description of word pictures, KSA indicators and the minimum grade to be achieved



- **Examples of KSA indicators:**
 - Communicates clearly, accurately and concisely in lessons/KSA exercises
 - Addresses and resolves conflict and disagreement in a constructive manner
 - Identifies threats, errors and undesirable aircraft states in theoretical or practical exercises
 - Manages and recovers from interruptions, distractions, variations and unexpected inputs effectively
 - Correctly and effectively applies knowledge



Area 100 KSA grade levels

- GM gives the minimum acceptable grades and examples of word pictures for a grading system:
 1. Occasionally shows relevant indicators. Requires to be shown or told how to proceed. Neutral or negative effect on the outcome
 2. **Regularly shows some of the relevant indicators. Achieves positive outcome but may require occasional prompting**
 3. Regularly shows most or all of the indicators. Achieves positive outcome with occasional hint
 4. No hints or prompts



- Example of core competence word pictures:
 1. Communication unclear or insufficient, may interrupt others, not listen or show frustration
 2. **Communication sufficient to complete exercise**
 3. Communication has positive effect, with explanations, discussion, direction normally structured and clear
 4. Verbal communication and body language is calm, confident, open and supportive



- Training and assessment should at least cover :
 - the subjects that they are allocated to teach,
 - the core competencies and
 - the AMC1 FCL.920 sections:
 - prepares resources,
 - creates a climate conducive to learning,
 - present knowledge,
 - integrate TEM or CRM,
 - facilitate learning, and
 - monitor and review progress

Ref: NPA 2016-3(A) AMC2 ORA.ATO.230(a)



- KSA assessors should:
 - have KSA expertise in the assessment exercise area
 - receive initial training to understand the content and aims of the assessment exercise(s)
 - if applicable, be briefed on the use of the training device and exercise
 - complete standardisation training to include KSA indicators and ATO word picture familiarisation
 - be assessed (initial and recurrent)

Ref: NPA 2016-3(A) AMC2 ORA.ATO.230(a)



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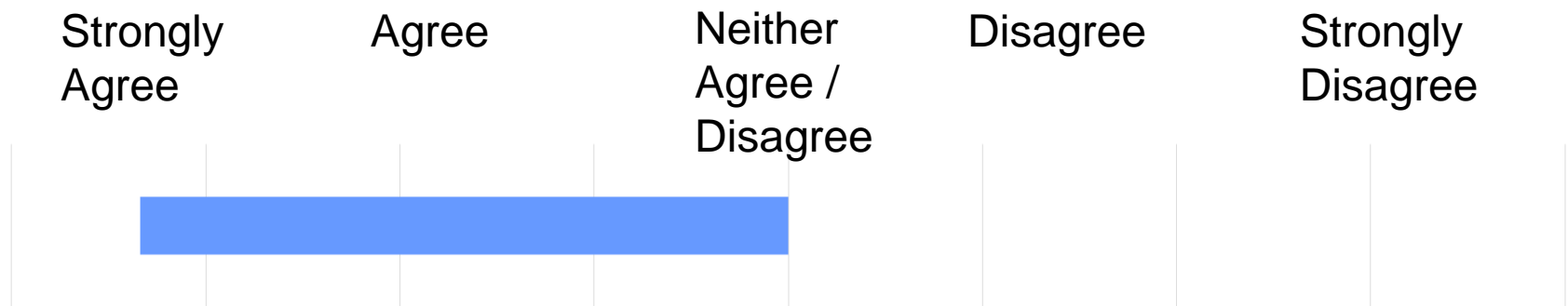
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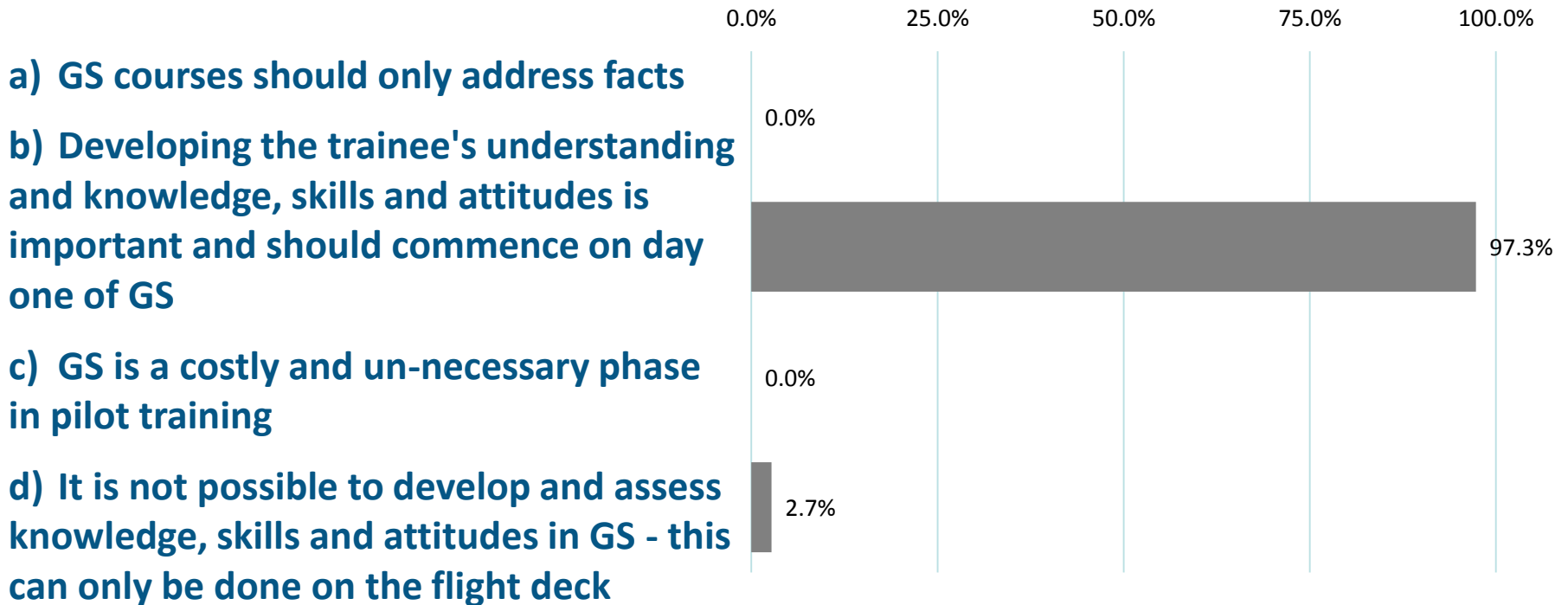
European Industry Questionnaire

► ‘Compared to the present ground training courses, a wider knowledge and skills ground training course (including interwoven TEM) would improve safety’





Which of the following answers best describes your view on developing and assessing trainee knowledge, skills and attitudes in ground school?





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Comments & questions

Thank you!

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