

Introducing the concept of Area 100 KSA (Knowledge, Skills & Attitudes)

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AIRBUS

Outline

1. Present pilot training system
2. The RMT 595 training needs analysis and need for change
3. Area 100 KSA
4. The bigger picture
5. ATO responsibility & flexibility and NAA oversight
6. Summary

1. The present pilot training system

Separated into theoretical and practical training

Theoretical training

- The EASA ECQB team is introducing many new questions with greater emphasis on understanding and application rather than just 'state' and 'define'
- Primary focus can be on preparing for multiple choice exams.
- Question exposure remains an issue
- No requirement to develop and assess the student's core competencies.
- No ability to test understanding at higher taxonomy levels, in longer scenarios and with across subject application

Civil Aviation Authority

Flight Crew Licensing Examinations

PLEASE READ THE INSTRUCTIONS TO CANDIDATES ON THE FRONT OF THE QUESTION PAPER WHEN HANDED OUT

To answer the questions please put a cross in the appropriate box like this: ☒ B ☐ C ☐ D

Please use the pencil provided

If you make a mistake, fill in the box completely like this, and then re-mark your correct answer. ☒ B ☒ C ☒ D

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Subject: _____

Time Allowed:
Hours Minutes

Candidate Signature: _____

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100	A	B	C	D



CAA001

2. TNA and the need for change

Need 1 – Understanding

European Industry survey:

‘An increased level of understanding and the ability to apply theoretical knowledge would improve safety’



2. TNA and the need for change

Need 1 – Understanding

European Industry survey:

‘An increased level of understanding and the ability to apply theoretical knowledge would improve safety’



Need 2 – Application

European Industry survey:

‘A student’s ability to relate knowledge between subjects and to scenario situations is important for later training effectiveness’



TNA and the need for change

Need 3 – Development of the core competencies

UK CAA Analysis of fatal accidents 2010-2011

- Flight crew actions are primary casual factor in more than 50% and whilst in 14% flight crew handling skills were a factor, non technical skills were a factor in 32%

EPAS 2016-2020

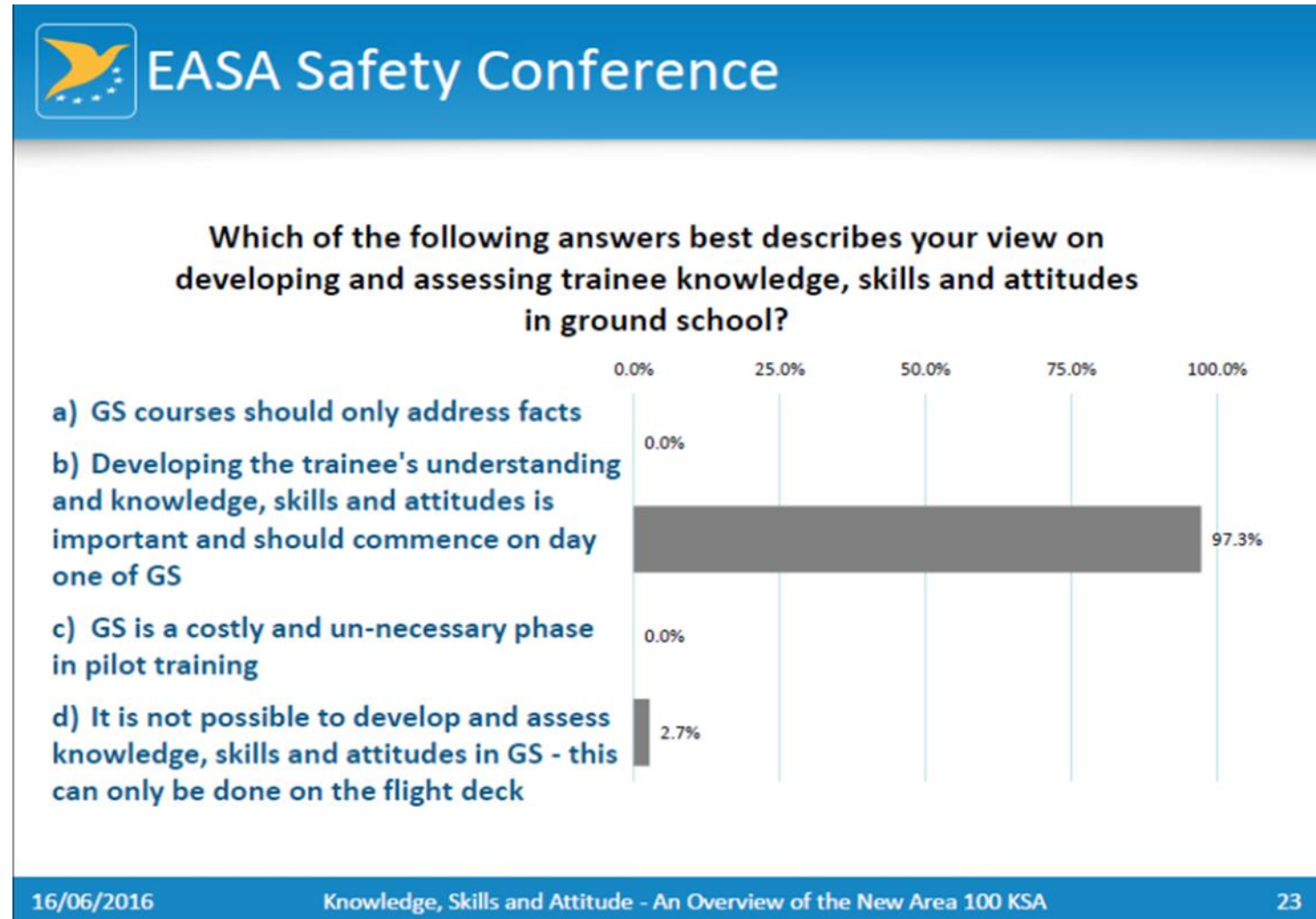
- Identifies as a significant systemic issue, the need to ensure that aviation personnel have the right competencies and receive appropriate training to cope with today's challenges

IATA

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

TNA and the need for change

Need 3 – Development of the core competencies



TNA and the need for change

Need 4 – Application of TEM



European Industry Questionnaire

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

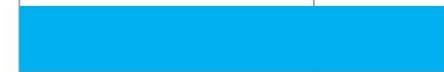
Strongly
Disagree

Disagree

Neither
Agree /
Disagree

Agree

Strongly
Agree



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

TNA and the need for change

Need 5 –

- Development of applied mental maths skills

Need 6 -

- Meet the expectations and needs of generation Y and imminently millennials

Need 7 -

- Maximise the effectiveness and efficiency of training within this phase and in following phases

3. KSA 100 – what is it?

An holistic approach to TK pilot training that develops and assesses a pilot's Knowledge, Skills, and Attitudes, which:

- Drives understanding and application of knowledge
- Interweaves application of TEM
- Ensures the development and assessment of the student's core competencies
- Utilises a range of learning styles, environments, methods, devices and technologies, and
- Engages, supports and motivates the training pilot to exceed 'satisfactory' grades

3. KSA 100 – what is it?

Area 100 KSA LOs

ICAO (core) competencies

- Communication
- Leadership and Teamwork
- Problem Solving and Decision Making
- Situation Awareness
- Workload Management

ICAO competencies not mandated within Area 100 KSA

- *Application of procedures*
- *Aeroplane Flight Path Management, automation*
- *Aeroplane Flight Path Management, manual*

- Application of Knowledge
- UPRT & Resilience
- Mental maths

KSA 100- training course and assessments

TK course may include:

- Lessons, tutorials, demonstrations and discussions
- Scenario planning and communications exercises and/or assessments
- Group and /or individual exercises and/or assessments using equipment or training devices
- Group work such as presentations and projects, individual scenario based oral board
- Directed study including workbook exercises, essays and assignments
- Computer based training and e-learning elements
- Field trips and projects
- Within lesson and scenario based mental maths questions, exercises and test.

AMC1 to Appendix 3 (ATPL, CPL), GM1 to Appendix 5(MPL), AMC3 ORA.ATO.230(a)

Mental Maths

Demonstrate, in non-calculator scenario test the ability in a time-efficient manner to make correct mental calculation approximations

LO examples

- Add/subtract time, distance, and fuel mass
- Estimate time, distance, speed, rate of descent, TOD, fuel remaining.
- Determine values that vary by a percentage
- Estimate headings using the 1-in-60 rule.

AMC4 to ORA.ATO.230(a) and AMC1 to Appendix 3

TK EASA exams and KSA 100 assessments

EASA electronic subject exams, plus

‘Area 100 KSA’ assessments:

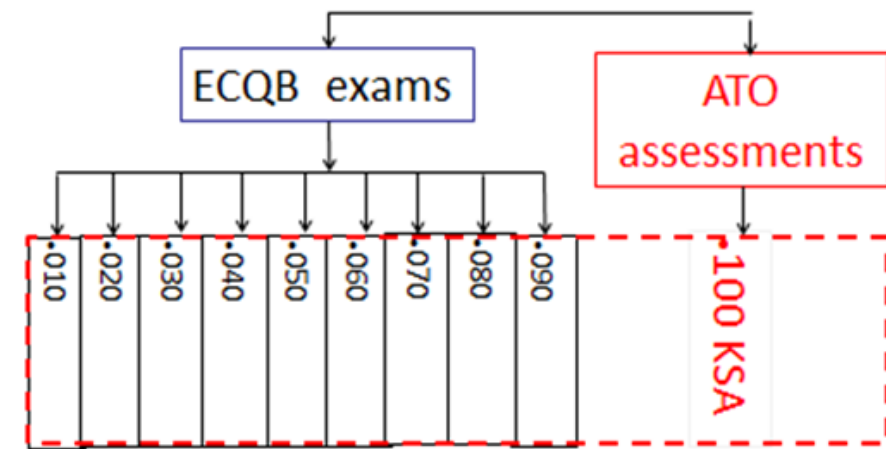
- formative and summative
- summative cover all the Area 100 KSA LOs
- designed and conducted by ATO
- assessed at the ATO using word pictures for awarding competence level
- student debriefed by the ATO, to include strength, weaknesses and action for future improvement
- student must have achieved ‘Satisfactory’ grade or higher in summative assessments and passed mental maths test before final ECQB exam

AMC1.FCL.025(a)2, AMC3 ORA.ATO.230,GM1

ORA.ATO.320(a),GM2 ORA.ATO.320(a)



Revision of the TK system



01/11/2016

EATS 2016

18

KSA 100 – Assessment and satisfactory standard

- The Area 100 KSA assessment of student-pilots is expected to be achieved in single-event assessments. Where possible, the assessments are expected to be scenario based and include individual, pair and/or group situations
- There must be at least one formative assessment and at least two summative assessments. The summative assessments must be designed to cover all the KSA learning objectives
- The single event assessments may be supplemented by additional continuous KSA assessment conducted by an ATO assessor who records the core competencies displayed by the student over a specified period, module or stage of the theoretical knowledge course.

AMC3 ORA.ATO.230(a) and GM3 ORA.ATO.230(a)

KSA 100 – Core competence satisfactory standard

The competency grade is determined from word pictures that uses the indicators identified during an exercise or assessment.

The word pictures are constructed to contain the elements: HOW WELL, HOW OFTEN and HOW MANY of the indicators were observed to enable the OUTCOME (how successfully the exercise was achieved).

Satisfactory standard - The student occasionally shows most of the relevant KSA indicators, or regularly shows some of the relevant KSA indicators, taking an overall positive role in the exercise outcome/completion.

GM2.ORA.ATO.230(a)

Area 100 KSA – Instructor training (Formative assessment)

An ATO should ensure that an instructor who conducts the Area 100 KSA formative assessments has received adequate training to be familiar with:

- Relevant competencies and performance indicators,
- Area 100 KSA Learning objectives,
- Assessment(s) that will be conducted include: the applicable LO, purpose and content of the assessment(s) and position in the training plan, assessment resources, assessment environment
- Area 100 KSA grading system, including familiarization with the performance indicators and the ATO's word pictures; and
- Student debrief methods and procedure

GM4.ORA.ATO.230(a)(b)

Area 100 KSA – instructor training (summative assessment)

An ATO should ensure that an instructor who conducts the Area 100 KSA summative assessments has received adequate training to be familiar with:

- The summative assessments that they will conduct including; the applicable LOs, purpose and content of the exercises(s) and position(s) in the training plan, assessment resources, assessment environment, and the minimum acceptable level;
- The assessment feedback, evaluation and development process; and
- The KSA candidate appeal procedure

GM4.ORA.ATO.230(a)(c)

The bigger picture -ICAO competencies and the application of knowledge

The Competency Based Training and Assessment Task Force (CBTA TF) have worked on the update of Annex 1 and PANS TRG to introduce CBTA in all phases

Underpinning the competencies in all phases of training is the ‘the application of knowledge’ which collectively refers to the ability of the pilot to;

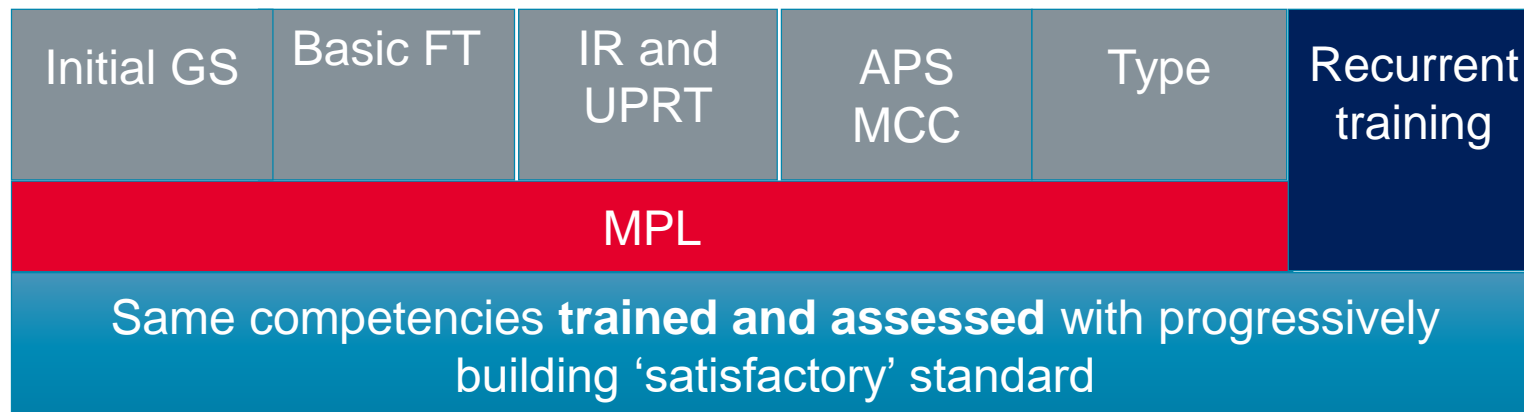
- Recall and proactively maintain relevant knowledge, and
- Apply their knowledge to the operational environment, including TEM

To enable the identification of a trainee’s strengths and weaknesses in the application of knowledge, the operator or ATO must progressively develop and assess the trainee’s application of knowledge. This may be conducted by a combination of training and evaluation methods based on the course instructional design (ADDIE), that is recorded in the national authority approved relevant ATO manual(s) and is subject to review and update action.

4. Bigger Picture – EASA

Requirement for pilot training that:

- Continuously builds the pilot's Competencies
- Is effective and efficient, with each phase being output driven, and
- Utilises education best practices and supportive technology



5. ATO Responsibility and Flexibility and NAA PBE


ATOs should continuously develop their courses using robust ATO safety management and compliance systems, the recorded use of ISD course design and established processes to:

- Meet industry and trainee needs
- Incorporate technology advances
- Include NAA, industry and regional areas of focus in a timely manner
- Utilise educational best practices
- Improve their course effectiveness and efficiency

NAA oversight moves from prescriptive oversight to consider the effectiveness of ATO systems and processes

Area KSA 100 Summary

- An holistic approach to TK pilot training that develops and assesses a pilot's Knowledge, Skills, and Attitudes.
- Output driven training that meets the needs of the industry and the trainee, and enables ATOs to improve training effectiveness and efficiency
- The Area 100 KSA learning objectives including TEM are interwoven into the training course
- The trainee's competencies and mental maths are developed over the duration of the course and assessed in exercises, formative and summative assessments and mental maths test
- Enables greater ownership of course development to the ATO
- Enables NAAs to look at quality of an ATO's course and processes and governance through ISD, SMS and Compliance systems



Thank-you Questions and discussion

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(Knowledge, Skills & Attitudes)

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