



UNIVERSITY *of* CAMBRIDGE
International Examinations

Item writing theory - key points revisit

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Validity – a reminder

- ‘Fitness for purpose of an assessment tool or scheme’ (QCA)
- A good question is a valid question.
- It gives an accurate measurement of what it is intended to measure
- ‘The students’ minds are doing the things we want them to show us they can (or can’t) do.’



Ways of ensuring validity

- Clear test specifications closely matched to teaching and assessment syllabuses
- Use of specification grids when test setting
- Thorough vetting and checking of draft test materials (checklists)
- Careful review of test outcomes
- Seek feedback from learners, markers and other stakeholders

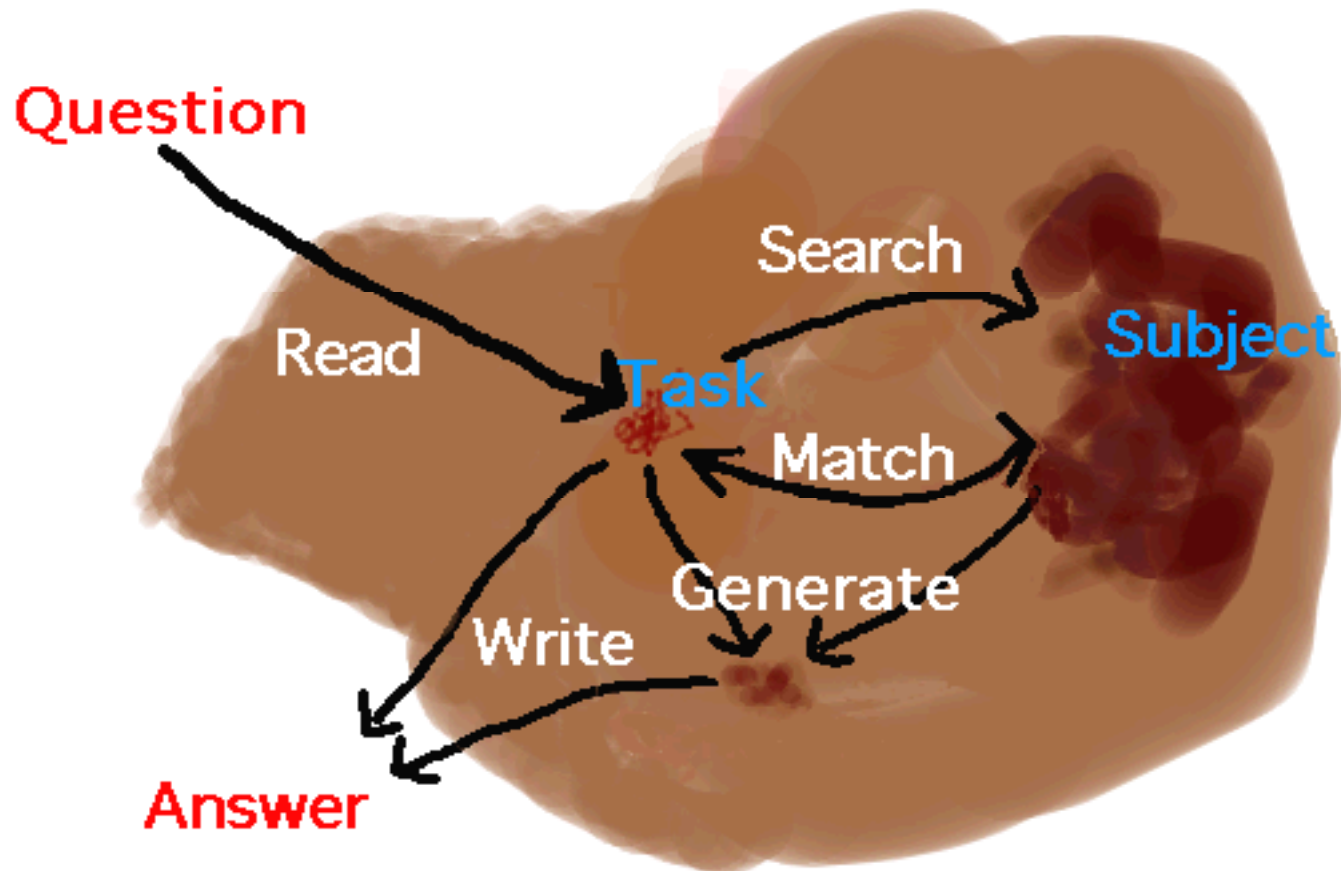


The Question Answering Process

- Phase 0 – **learning** the subject
- Phase 1 – **reading** the question
- Phase 2 – **searching** the memory
- Phase 3 – **matching** memory to the task
- Phase 4 – **generating** an answer
- Phase 5 – **writing** an answer



The Question Answering Process





Outcome Space

- ‘The range of answers or types of answers to a question or task’
- Predicting a question’s outcome space allows us to check for validity and (un)fairness
- Candidates can ‘go wrong’ at each phase of the question answering process
- A good mark scheme accommodates a large proportion of the outcome space



Access to Question Concepts

- Candidates need to be able to understand all the concepts in the question in order to form a complete **mental model** of it
- Words are ‘cues to build a familiar mental model’
- The question being answered is not the one on the paper, but the one in the learner’s mind



MoDs affecting Access to Question Concepts

- Affective contexts / words
- Bias
- Readability
- Density of presentation
- Novel / complex context
- Technical terms / Difficult vocabulary



Understanding Question Meaning

- Understanding what the question requires the candidate to do
- Question may activate many ideas in a candidate's mind, some relevant, some not
- The candidate may emphasise different words from those intended by examiner
- Misunderstanding leads to the wrong question being answered



MoDs affecting Understanding Question Meaning

- Distracting words
- Everyday meanings
- Emphasis
- Resources
- Ambiguous language
- Familiarity of context



Candidate Response to the Question

- How the candidate sets about responding to the question
- Previous experiences (eg mock exams)
- Subject context



MoDs affecting Candidate Response to the Question

- Command words
- Alternative strategies
- Expectations
- Paper layout
- Response prompts



Mark Scheme

- What is required from candidates in order to gain marks
- Compatibility between questions and mark scheme
- Beyond the candidate's control?!



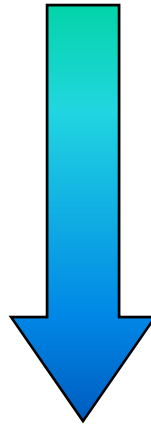
MoDs affecting Mark Scheme

- Detail required
- Mark allocation
- Alternative interpretation
- Fuzzy answer set



What do command words do?

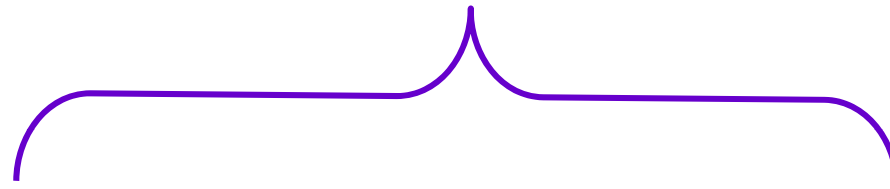
Direct the learner through the question/task
(what to do and how to do it)



allowing effective assessment



Types of command word



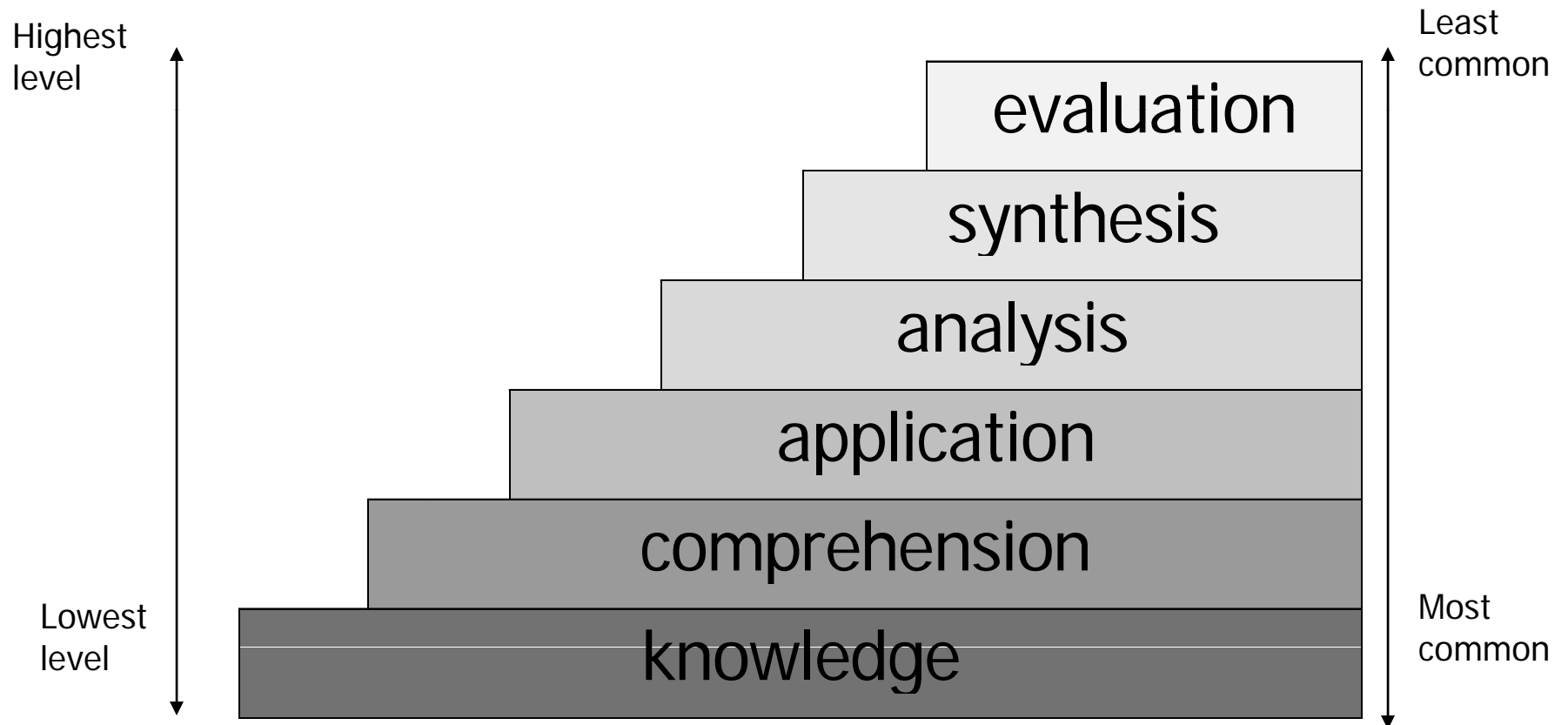
related to task type:

choose	circle
draw	fill in
put	look at
write	say
listen	read

**related to
cognitive demand**



Bloom's Taxonomy





Bloom's Taxonomy – Typical Tasks

- ***Evaluation*** – compare, judge and conclude
- ***Synthesis*** – design, revise and summarise
- ***Analysis*** – analyse, deduce and explain
- ***Application*** – classify, organise and use
- ***Comprehension*** – describe, paraphrase and summarise
- ***Knowledge*** – identify, select and state



Tasks/questions must be.....

- Clearly expressed
- Concise
- Unambiguous
- Clearly defined
- Related to assessment objectives
- Reflected in the mark scheme



Manageability – a definition

- The extent to which an assessment is practicable, implementable, affordable and repeatable



Manageability for whom?

- School
- Teachers
- Learners
- Markers
- Others?



Manageability in terms of what?

- Resources for development and implementation of test:
 - Physical
 - Intellectual
 - Personnel
 - Technical / computer
- Time
- Cost of development and administration
- Complexity



Factors in manageability and cost

- Availability of necessary expertise
- Ease of administration
- Ease of marking
- Human resources required
- Computer resources required
- Complexity of scheme / question paper / test



Factors in manageability and cost

- Number of options / optional routes
- Amount of question choice
- Length of question paper / test
- Frequency of testing
- Amount of source material required
- Amount of artwork, photographs, etc required
- Copyright costs



Really important bits

- Check the item tests the specified topic and skill and avoids irrelevancies.
- Check item tests topics which are clearly on the syllabus.
- Check item tests one topic only or focuses on one particular problem.
- Edit and organise any data or separate stimulus material.



General rules to bear in mind

- Test the subject - avoid trivia, marginal syllabus areas and irrelevancies.
- The key and all options must be on the Syllabus.
- Set a specific task. Do not use a level of language which is too sophisticated-the language must be appropriate to the level of the candidate.
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General rules cont.

- Avoid testing things learners may answer correctly without knowledge of the subject.
- Do not test unnecessarily complex reasoning.
- Avoid negatives.
- Be brief, but do provide all the information needed.
- Several short sentences are usually preferable to one long sentence.



Finally...

- Write the marking rubric in parallel in with question, keeping the expected answer clear will help you focus on making sure you ask the right question!