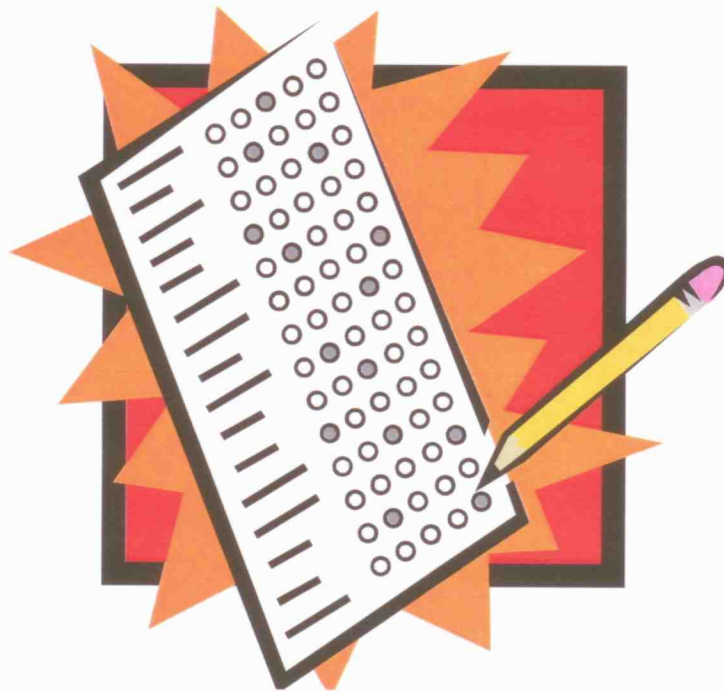


How to Build a Better Test

St. Francis Episcopal Day School
August 13, 2008



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BUILDING A BETTER TEST

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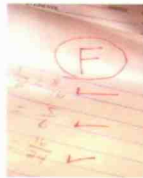
INTRODUCTIONS

- Who are you?
- What do you want?
- Why?



PURPOSE OF TESTING

- Provides feedback to you about student learning
- Provides feedback to students about their learning
- Provides feedback to you about your teaching via student learning
- Mechanism for assigning grades
- Can demonstrate competencies



TIPS FOR CREATING EFFECTIVE TESTS

- Make up test items throughout the term
- Ask students to submit test questions
- Borrow items from colleagues/test banks
- Prepare clear instructions
- Include a few words of encouragement
- Put some easy items first
- Challenge your best students
- Try out the timing



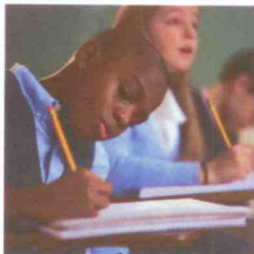
CONSTRUCTING THE TEST

- List your course goals
- Determine the number of test items for each category of objectives
- Consider the type of knowledge you want to assess
- Create a Behavior Content Matrix
- Validity
- Reliability



VALIDITY

- Results must be useful about making decisions about a students' achievement – Does the test measure what you want it to measure?
- Focus on content validity: does the content of the test represent an accurate sampling of the knowledge and skills taught?



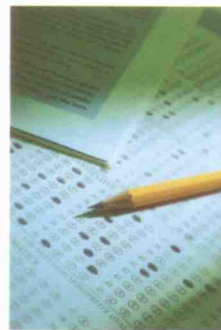
RELIABILITY

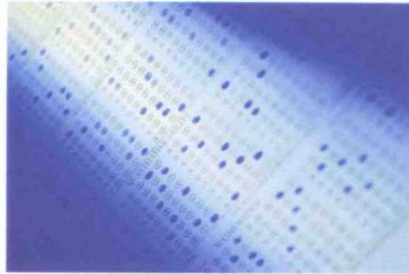
- Does the test accurately and consistently evaluate a student's performance?
- Do students you predict to score high do so? Do students you predict to score low do so?



THREATS TO VALIDITY AND RELIABILITY

- Too few difficult test items
- Ambiguous questions
- Unclear directions
- Vague scoring criteria
- Too short a test
- Unbalanced coverage in proportion to emphasis in class





TAKE THE QUIZ!



ANSWERS TO THE QUIZ

1. TRUE
2. ???
3. TRUE
4. FALSE
5. TRUE
6. ???
7. TRUE
8. TRUE
9. TRUE



BLOOM'S TAXONOMY

- Benjamin Bloom - formulated a classification of "the goals of the educational process".
- Three "domains" of educational activities were identified.
 - Cognitive Domain, involves knowledge and the development of intellectual attitudes and skills.
 - The other domains are the Affective Domain and the Psychomotor Domain

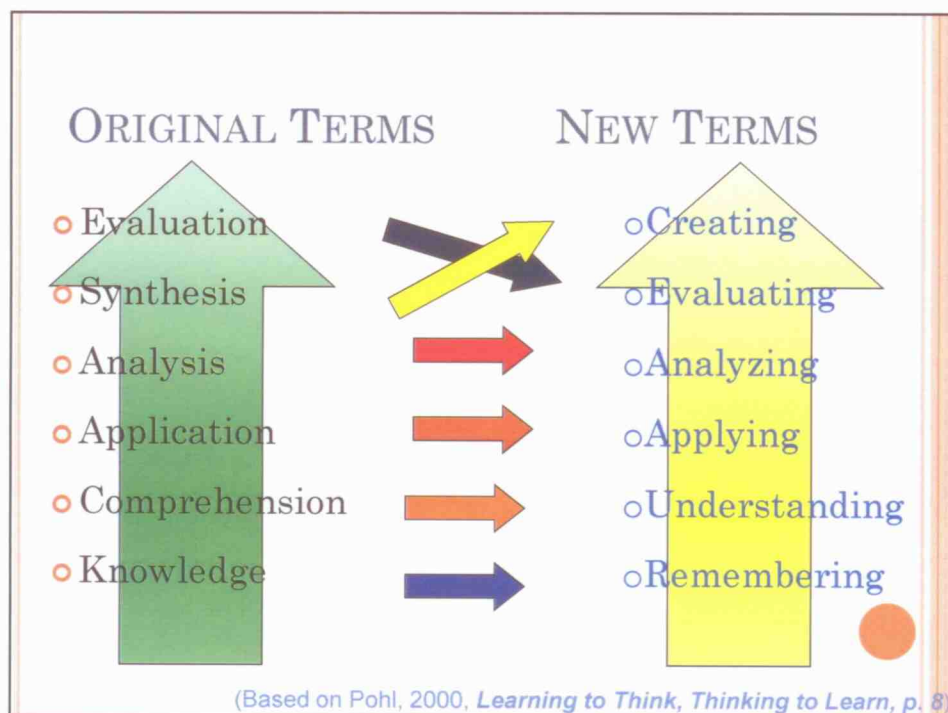
BLOOM'S REVISED TAXONOMY

- **Taxonomy of Cognitive Objectives**
- **Developed by Benjamin Bloom in the 1950's**
- **Means of expressing qualitatively different kinds of thinking**
- **Adapted for classroom use as a planning tool**
- **Continues to be one of the most universally applied models**

BLOOM'S REVISED TAXONOMY

- Provides a way to organize thinking skills into six levels, from the most basic to the higher order levels of thinking
- 1990s- Lorin Anderson (former student of Bloom) revisited the taxonomy
- As a result, a number of changes were made

(Pohl, 2000, *Learning to Think, Thinking to Learn*, pp. 7-8)



BLOOM'S REVISED TAXONOMY

CREATING -GENERATING NEW IDEAS, PRODUCTS, OR WAYS OF VIEWING THINGS

EVALUATING -JUSTIFYING A DECISION OR COURSE OF ACTION

ANALYSING -BREAKING INFORMATION INTO PARTS TO EXPLORE UNDERSTANDINGS AND RELATIONSHIPS

APPLYING -USING INFORMATION IN ANOTHER FAMILIAR SITUATION

UNDERSTANDING -EXPLAINING IDEAS OR CONCEPTS

REMEMBERING -RECALLING INFORMATION

REMEMBERING

The learner is able to recall, restate, and remember learned information.

- Recognizing
- Listing
- Describing
- Identifying
- Retrieving
- Naming
- Locating
- Finding

Can you recall information?



REMEMBERING CONT.

- List
- Memorize
- Relate
- Show
- Locate
- Distinguish
- Give example
- Reproduce
- Quote
- Repeat
- Label
- Recall
- Know
- Group
- Read
- Write
- Outline
- Recite
- Match
- Select
- Underline
- Sort



Products include

- | | |
|--------------|----------------|
| • Quiz | • Label |
| • Definition | • List |
| • Fact | • Workbook |
| • Worksheet | • Reproduction |
| • Test | • Vocabulary |

REMEMBERING: POTENTIAL ACTIVITIES AND PRODUCTS

- Make a story map showing the main events of the story.
- Make a time line of your typical day.
- Make a concept map of the topic.
- Write a list of keywords you know about....
- What characters were in the story?
- Make a chart showing...
- Recite a poem you have learned.

UNDERSTANDING

The learner grasps the meaning of information by interpreting and translating what has been learned.

- Interpreting
- Exemplifying
- Summarizing
- Inferring
- Paraphrasing
- Classifying
- Comparing
- Explaining

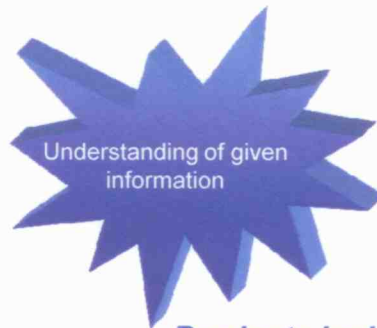


Can you explain ideas or concepts?



UNDERSTANDING CONT.

- Restate
- Identify
- Discuss
- Retell
- Research
- Annotate
- Translate
- Give examples of
- Paraphrase
- Reorganize
- Associate
- Describe
- Report
- Recognize
- Review
- Interpret



Products include

- | | |
|-----------------|-----------|
| • Recitation | • Example |
| • Summary | • Quiz |
| • Collection | • List |
| • Explanation | • Label |
| • Show and tell | • Outline |



UNDERSTANDING: POTENTIAL ACTIVITIES AND PRODUCTS

- Write in your own words...
- Cut out, or draw pictures to illustrate a particular event in the story.
- Report to the class...
- Illustrate what you think the main idea may have been.
- Make a cartoon strip showing the sequence of events in the story.
- Write and perform a play based on the story.
- Write a brief outline to explain this story to someone else
- Explain why the character solved the problem in this particular way
- Write a summary report of the event.
- Prepare a flow chart to illustrate the sequence of events.
- Paraphrase this chapter in the book.
- Retell in your own words.
- Outline the main points.



APPLYING

The learner makes use of information in a context different from the one in which it was learned.

- Implementing
- Carrying out
- Using
- Executing

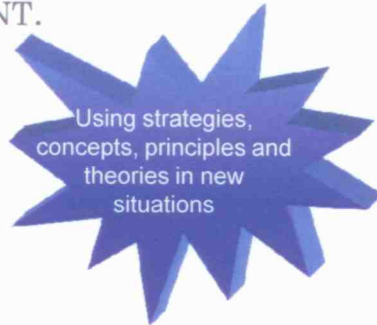


Can you use the information in another familiar situation?



APPLYING CONT.

- Translate
- Manipulate
- Exhibit
- Illustrate
- Calculate
- Interpret
- Make
- Practice
- Apply
- Operate
- Interview
- Change
- Sequence
- Demonstrate
- Use
- Adapt



Products include

- Photograph
- Illustration
- Simulation
- Sculpture
- Demonstration
- Presentation
- Interview
- Performance
- Diary
- Journal

APPLYING: POTENTIAL ACTIVITIES AND PRODUCTS

- Construct a model to demonstrate how it looks or works
- Practice a play and perform it for the class
- Make a diorama to illustrate an event
- Write a diary entry
- Make a scrapbook about the area of study.
- Make a topographic map
- Take and display a collection of photographs on a particular topic.
- Make up a puzzle or a game about the topic.
- Write an explanation about this topic for others.
- Dress a doll in national costume.
- Make a clay model...
- Paint a mural using the same materials.
- Continue the story...

ANALYSING

The learner breaks learned information into its parts to best understand that information.

- Comparing
- Organizing
- Deconstructing
- Attributing
- Outlining
- Finding
- Structuring
- Integrating

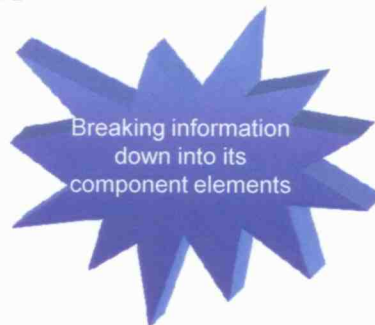


Can you break information into parts to explore understandings and relationships?



ANALYZING CONT

- Distinguish
- Question
- Appraise
- Experiment
- Inspect
- Examine
- Probe
- Separate
- Inquire
- Arrange
- Investigate
- Sift
- Research
- Calculate
- Criticize
- Compare
- Contrast
- Survey
- Group
- Categorize
- Relate



Products include:

- | | |
|---------------|------------|
| • Graph | • Survey |
| • Spreadsheet | • Database |
| • Checklist | • Mobile |
| • Chart | • Abstract |
| • Outline | • Report |



ANALYZING: POTENTIAL ACTIVITIES AND PRODUCTS

- Use a Venn Diagram to show how two topics are the same and different
- Design a questionnaire to gather information.
- Survey classmates to find out what they think about a particular topic. Analyse the results.
- Make a flow chart to show the critical stages.
- Classify the actions of the characters in the book
- Construct a graph to illustrate selected information.
- Make a family tree showing relationships.
- Devise a role play about the study area.
- Write a biography of a person studied.
- Prepare a report about the area of study.
- Conduct an investigation to produce information to support a view.
- Review a work of art in terms of form, color, and texture.
- Complete a Decision Making Matrix to help you decide which breakfast cereal to purchase

EVALUATING

The learner makes decisions based on in-depth reflection, criticism and assessment.

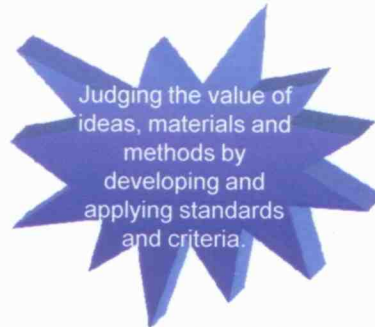
- Checking
- Hypothesising
- Critiquing
- Experimenting
- Judging
- Testing
- Detecting
- Monitoring



Can you justify a decision or course of action?

EVALUATING CONT.

- Judge
- Rate
- Validate
- Predict
- Assess
- Score
- Revise
- Infer
- Determine
- Prioritize
- Tell why
- Compare
- Evaluate
- Defend
- Select
- Measure
- Choose
- Conclude
- Debate
- Justify
- Recommend
- Value



Products include

- | | |
|--------------|---------------------|
| • Debate | • Investigation |
| • Panel | • Verdict |
| • Report | • Conclusion |
| • Evaluation | • Persuasive speech |

EVALUATING: POTENTIAL ACTIVITIES AND PRODUCTS

- Write a letter to the editor
- Prepare and conduct a debate
- Prepare a list of criteria to judge...
- Write a persuasive speech arguing for/against...
- Make a booklet about five rules you see as important. Convince others.
- Form a panel to discuss viewpoints on....
- Write a letter to... ..advising on changes needed.
- Write a half-yearly report.
- Prepare a case to present your view about...
- Evaluate the character's actions in the story

CREATING

The learner creates new ideas and information using what has been previously learned.

- Designing
- Constructing
- Planning
- Producing
- Inventing
- Devising
- Making



Can you generate new products, ideas, or ways of viewing things?



CREATING CONT.

- Compose
- Assemble
- Organize
- Invent
- Compile
- Forecast
- Devise
- Propose
- Construct
- Plan
- Prepare



Products include



- | | |
|------------|-----------------|
| • Film | • Song |
| • Story | • Newspaper |
| • Project | • Media product |
| • Plan | • Advertisement |
| • New game | • Painting |



CREATING: POTENTIAL ACTIVITIES AND PRODUCTS

- Invent a machine to do a specific task.
- Design a robot to do your homework.
- Create a new product. Give it a name and plan a marketing campaign.
- Write about your feelings in relation to...
- Write a TV show play, puppet show, role play, song, or pantomime about...
- Design a new monetary system
- Develop a menu for a new restaurant using a variety of healthy foods
- Design a record, book or magazine cover for...
- Sell an idea
- Devise a way to...
- Make up a new language and use it in an example
- Write a jingle to advertise a new product.



	SAMPLE UNIT : SPACE	
Remembering	Cut out "space" pictures from a magazine. Make a display or a collage. List space words. List the names of the planets in our universe. List all the things an astronaut would need for a space journey.	
Understanding	Make your desk into a spaceship. Make an astronaut for a puppet play. Use it to tell what an astronaut does. Make a model of the planets in our solar system.	
Applying	Keep a diary of your space adventure (5 days). What sort of instruments would you need to make space music? Make a list of questions you would like to ask an astronaut.	
Analyzing	Make an application form for a person applying for the job of an astronaut. Compare Galileo's telescope to a modern telescope. Distinguish between the Russian and American space programs.	
Evaluating	Compare the benefits of living on Earth and the moon. You can take three people with you to the moon. Choose and give reasons. Choose a planet you would like to live on- explain why.	
Creating	Write a newspaper report for the following headline: "Spaceship out of control". Create a game called "Space Snap". Prepare a menu for your spaceship crew. Design an advertising program for trips to the moon.	



SAMPLE UNIT : TRAVEL




Remembering	How many ways can you travel from one place to another? List and draw all the ways you know. Describe one of the vehicles from your list, draw a diagram and label the parts. Collect "transport" pictures from magazines- make a poster with info.
Understanding	How do you get from school to home? Explain the method of travel and draw a map. Write a play about a form of modern transport. Explain how you felt the first time you rode a bicycle. Make your desk into a form of transport.
Applying	Explain why some vehicles are large and others small. Write a story about the uses of both. Read a story about "The Little Red Engine" and make up a play about it. Survey 10 other children to see what bikes they ride. Display on a chart or graph.
Analysing	Make a jigsaw puzzle of children using bikes safely. What problems are there with modern forms of transport and their uses- write a report. Use a Venn Diagram to compare boats to planes, or helicopters to bicycles.
Evaluating	What changes would you recommend to road rules to prevent traffic accidents? Debate whether we should be able to buy fuel at a cheaper rate. Rate transport from slow to fast etc..
Creating	Invent a vehicle. Draw or construct it after careful planning. What sort of transport will there be in twenty years time? Discuss, write about it and report to the class. Write a song about traveling in different forms of transport.


***A good teacher
makes you think
even when you
don't want to.***

(Fisher, 1998, ***Teaching
Thinking***)

WRITING GOOD QUESTIONS

- Test items should be used purposefully to achieve well-defined goals.
 - Bloom's Taxonomy gives teachers and students an opportunity to learn and practice a range of thinking and provides a simple structure for many different kinds of questions and thinking.
 - The taxonomy involves all categories of questions.
 - Typically a teacher would vary the level of questions within a single lesson.
- 

LOWER AND HIGHER ORDER QUESTIONS

- Lower level questions are those at the remembering, understanding and lower level application levels of the taxonomy.
 - Usually questions at the lower levels are appropriate for:
 - Evaluating students' preparation and comprehension
 - Diagnosing students' strengths and weaknesses
 - Reviewing and/or summarizing content
- 

LOWER AND HIGHER ORDER QUESTIONS

- Higher level questions are those requiring complex application, analysis, evaluation or creation skills.
- Questions at higher levels of the taxonomy are usually most appropriate for:
 - Encouraging students to think more deeply and critically
 - Problem solving
 - Encouraging discussions
 - Stimulating students to seek information on their own

QUESTIONS FOR REMEMBERING

- What happened after...?
- How many...?
- What is...?
- Who was it that...?
- Can you name ...?
- Find the definition of...
- Describe what happened after...
- Who spoke to...?
- Which is true or false...?

(Pohl, *Learning to Think, Thinking to Learn*, p. 12)

QUESTIONS FOR UNDERSTANDING

- Can you explain why...?
- Can you write in your own words?
- How would you explain...?
- Can you write a brief outline...?
- What do you think could have happened next...?
- Who do you think...?
- What was the main idea...?
- Can you clarify...?
- Can you illustrate...?
- Does everyone act in the way that does?

(Pohl, *Learning to Think, Thinking to Learn*, p. 12)



QUESTIONS FOR APPLYING

- Do you know of another instance where...?
- Can you group by characteristics such as...?
- Which factors would you change if...?
- What questions would you ask of...?
- From the information given, can you develop a set of instructions about...?

(Pohl, *Learning to Think, Thinking to Learn*, p. 13)



QUESTION FOR ANALYZING

- Which events could not have happened?
- If ...happened, what might the ending have been?
- How is...similar to...?
- What do you see as other possible outcomes?
- Why did...changes occur?
- Can you explain what must have happened when...?
- What are some of the problems of...?
- Can you distinguish between...?
- What were some of the motives behind..?
- What was the turning point?
- What was the problem with...?

(Pohl, *Learning to Think, Thinking to Learn*, p. 13)



QUESTIONS FOR EVALUATING

- Is there a better solution to...?
- Judge the value of... What do you think about...?
- Can you defend your position about...?
- Do you think...is a good or bad thing?
- How would you have handled...?
- What changes to.. would you recommend?
- Do you believe...? How would you feel if. ...?
- How effective are. ...?
- What are the consequences..?
- What influence will....have on our lives?
- What are the pros and cons of....?
- Why isof value?
- What are the alternatives?
- Who will gain & who will lose?

(Pohl, *Learning to Think, Thinking to Learn*, p. 14)



QUESTIONS FOR CREATING

- Can you design a...to...?
- Can you see a possible solution to...?
- If you had access to all resources, how would you deal with...?
- Why don't you devise your own way to...?
- What would happen if ...?
- How many ways can you...?
- Can you create new and unusual uses for...?
- Can you develop a proposal which would...?

(Pohl, *Learning to Think, Thinking to Learn*, p. 14)

TYPES OF TEST ITEMS – MULTIPLE CHOICE

ADVANTAGES OF MULTIPLE-CHOICE EXAMS

- Ease of grading
- Ability to assess performance
 - Evaluate
 - Track changes
- Avoidance of grader bias
- Ability to cover broad topics



DISADVANTAGES OF MULTIPLE-CHOICE EXAMS

- Lengthy writing time
- Limited response variables
 - Not necessarily limited to 5; depends upon hardware
- Test bank questions provided by publishers are often not well-written
- Good questions are difficult to write



MYTHS OF MULTIPLE-CHOICE EXAMS

- Can't ask questions that require higher-order thought processes
 - Questions are limited to definitions or identification
 - Questions focus on memorization of facts
- These exams are for the “lazy” instructor



TESTING “SKILLS”

- Students learn to identify the correct answer from the way the question is written
- Longest answer
- Use of absolutes
- All of the Above's
 - None of None of the Above's
- Correct answer has a portion of the stem or question buried with in it.



THINGS TO AVOID

- Consistent use of All of the Above
- Language that contains bias
- General stem with divergent answers

BIASING LANGUAGE

You are walking on the street in a village in Wales. You notice a man selling apples from a cart. You ask how much the apples cost. He replies, "One tanner." You ask for 4 apples and pull out a sovereign. How much change should you get with you apples?

- A. 2 florin/3 bob
- B. 2 shillings/9 pence
- C. 6 crown/2 bob
- D. 6 shillings/3 pence
- E. 3 half-crowns

GENERAL STEM: DIVERGENT ANSWERS

Veterinary medicine:

- A. Only focuses on animal health and welfare.
- B. Captures 5% of household income.
- C. Was founded in 1962 by James Herriot.
- D. Has initiated many advances in nutrition.
- E. Is harder to get into than human medicine.

ELEMENTS OF A MULTIPLE CHOICE ITEM


The multiple-choice item consists of two parts: (a) the stem, which identifies the question or problem and (b) the response alternatives.

(a) *Item Stem*: Which of the following is a chemical change?


(b) *Response Alternatives*:

- A. Evaporation of alcohol
- B. Freezing of water
- *C. Burning of oil
- D. Melting of wax

CONSTRUCTING MULTIPLE CHOICE ITEMS

- Select “best” not “correct” answer
 - Express the full problem in the stem
 - Put all relevant material in the stem
 - Keep the stem short
 - Limit the number of response alternatives (no more than 5)
 - Make the distracters plausible
- 

WRITE A MC QUESTION

- Identify the Bloom’s Taxonomy level
 - Identify the stem
 - Consider the response alternatives
 - No “all” or “none of the above”
 - No divergent responses
 - All responses should be plausible
 - Avoid bias
- 

TYPES OF ITEMS – ESSAY QUESTIONS

WHY USE ESSAY QUESTIONS?

An essay question is a test item which contains the following elements:

- Requires examinees to *compose rather than select their response*.
- Elicits student responses that must consist of more than one sentence.
- Allows original responses and response patterns.
- Requires subjective judgment by a competent specialist to judge the accuracy and quality of student responses.
- Provides students with an indication of the types of thinking and content to use in responding to the essay question.

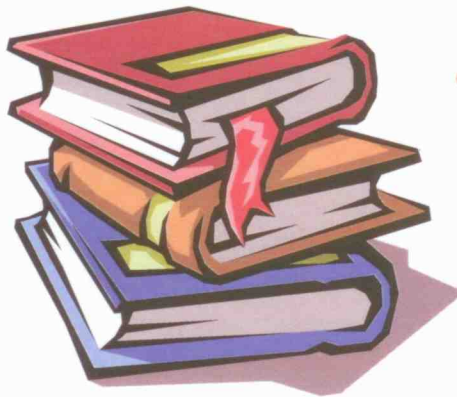
GOOD ESSAY QUESTIONS...

- Clearly define the intended learning outcome to be assessed by the item.
- Avoid using essay questions for intended learning outcomes that are better assessed with other kinds of assessment.
- Clearly define the task and situate the task in a problem situation.
- Present a reasonable task to students.
- Specify the relative point value and the approximate time limit in clear directions.
- State the criteria for grading.

CONSTRUCTING ESSAY QUESTIONS

- Frame each question so that:
 - It elicits the type of behavior you intended to assess.
 - The students' task is defined explicitly enough that they will interpret the task in the way you intended.
 - Its scope is clearly limited in terms of the content to be covered.
 - Experts in the subject-matter can agree on the relative merit of students responses.

CONSTRUCTING ESSAY QUESTIONS




- Use several relatively short essay questions rather than one long one.


CONSTRUCTING ESSAY QUESTIONS CONT.

- Specify the relative point value or weight given to each question and the approximate time limit students should observe in responding to each.
- Before administering a question, always write a model answer or at least an outline or list of the important elements that should be included in an ideal answer.


EXAMPLES OF ESSAY QUESTIONS

- What are the five sections of a research report? (Remembering)
 - In one sentence give the point of a written passage. (Understanding)
 - Write a short poem in iambic pentameter. (Applying)
- 


EXAMPLES OF ESSAY QUESTIONS

- Given an argument for the abolition of guns, enumerate the positive and negative points presented. (Analyzing)
 - Given the data available on an issue, take a position and defend it; Or, given two opposing theories, design an experiment to compare them. (Evaluating)
 - Construct an original work which incorporates five common materials in sculpture. (Creating)
- 

ADVANTAGES TO ESSAY QUESTIONS

- Measure complex learning outcomes not measured by other means
 - Can measure writing skills in addition to (or instead of) knowledge and understanding
 - May be easier to construct
 - Contribute to student learning, directly and indirectly
- 

LIMITATIONS TO ESSAY QUESTIONS

- Unreliability of scoring (unless clear learning outcomes, good scoring rubrics, practice in scoring)
 - Time consuming to score
 - Limited sampling of student knowledge
- 

WRITE AN ESSAY QUESTION

- Identify the Bloom's Taxonomy level
- Include all needed elements:
 - Identify a reasonable task
 - Indicate point value (or percentage)
 - Include a rubric for grading



QUESTIONS?



Behaviour Content Matrix for World History

	Europe at the turn of the century	The reaction of the United States	Relationships among European leaders	Beginnings of war
Creating	2 items	1 item	1 item	0 items
Evaluating	1 item	0 items	1 item	0 items
Analysing	3 items	2 items	4 items	1 item
Applying	2 items	4 items	8 items	2 items
Understanding	0 items	8 items	7 items	3 items
Remembering	4 items	0 items	3 items	6 items

Shell for a Behaviour Content Matrix

Creating				
Evaluating				
Analysing				
Applying				
Understanding				
Remembering				

Questions for Remembering

- What happened after...?
- How many...?
- What is...?
- Who was it that...?
- Can you name ...?
- Find the definition of...
- Describe what happened after...
- Who spoke to...?
- Which is true or false...?

Questions for Understanding

- Can you explain why...?
- Can you write in your own words?
- How would you explain...?
- Can you write a brief outline...?
- What do you think could have happened next...?
- Who do you think...?
- What was the main idea...?
- Can you clarify...?
- Can you illustrate...?
- Does everyone act in the way that does?

Questions for Applying

- Do you know of another instance where...?
- Can you group by characteristics such as...?
- Which factors would you change if...?
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- From the information given, can you develop a set of instructions about...?

Question for Analyzing

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- Why did...changes occur?
- Can you explain what must have happened when...?
- What are some of the problems of...?
- Can you distinguish between...?
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- What was the turning point?
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Questions for Evaluating

- Is there a better solution to...?
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- Do you think...is a good or bad thing?
- How would you have handled...?
- What changes to.. would you recommend?
- Do you believe...? How would you feel if. ...?
- How effective are. ...?
- What are the consequences..?
- What influence will....have on our lives?
- What are the pros and cons of....?
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Questions for Creating

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- If you had access to all resources, how would you deal with...?
- Why don't you devise your own way to...?
- What would happen if ...?
- How many ways can you...?
- Can you create new and unusual uses for...?
- Can you develop a proposal which would...?

(Pohl, *Learning to Think, Thinking to Learn*, p. 12 - 14)

BLOOM'S REVISED TAXONOMY



Creating

Generating new ideas, products, or ways of viewing things

Designing, constructing, planning, producing, inventing.

Evaluating

Justifying a decision or course of action

Checking, hypothesizing, critiquing, experimenting, judging



Analysing

Breaking information into parts to explore understandings and relationships

Comparing, organizing, deconstructing, interrogating, finding

Applying

Using information in another familiar situation

Implementing, carrying out, using, executing



Understanding

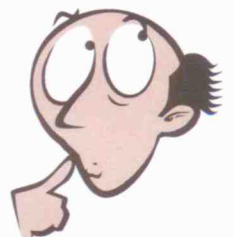
Explaining ideas or concepts

Interpreting, summarizing, paraphrasing, classifying, explaining

Remembering

Recalling information

Recognizing, listing, describing, retrieving, naming, finding



Quiz

(circle the correct answer)

- | | | | |
|---|---|---|---|
| 1. Essay exams are easier to construct than are objective exams. | T | F | ? |
| 2. Essay exams require more thorough student preparation and study time than objective exams. | T | F | ? |
| 3. Essay exams require writing skills where objective exams do not. | T | F | ? |
| 4. Essay exams teach a person how to write. | T | F | ? |
| 5. Essay exams are more subjective in nature than are objective exams. | T | F | ? |
| 6. Objective exams encourage guessing more so than essay exams. | T | F | ? |
| 7. Essay exams limit the extent of content covered. | T | F | ? |
| 8. Essay and objective exams can be used to measure the same content or ability. | T | F | ? |
| 9. Essay and objective exams are both good ways to evaluate a student's level of knowledge. | T | F | ? |