

Example :

Poor : Bhubaneswar is the

- (a) Pink City of India.
- (b) Biggest City of India.
- (c) Temple City of India.
- (d) the largest Populated City in India.

Better : The temple city of India is

- (a) Jaypur
- (b) Delhi
- (c) Banaras
- (d) Bhubaneswar

In the first example it is not clear, what answer the test maker expects from the testee. The alternatives are very much lacks in homogeneity. But in the second example it is clearly indicated that the test maker wants to know which is this temple city of India. The alternatives are also homogeneous in nature.

2. The item stem should be free from irrelevant material : The item should include the complete problem as well as it should be free from irrelevant materials. The best item is that which is short, easily read and clearly indicate the complete problem.

Example :

Poor : Jaypur situated in Rajstan also the capital of Rajstan is known as

- (a) Temple City of India.
- (b) Pink City of India.
- (c) Thickly populated city of India.
- (d) City situated at highest altitude

Better : Which city is known as Pink City of India.

- (a) Chandigarh
- (b) Calcutta
- (c) Jaypur
- (d) Bangalore

But sometimes when our main thrust is to measure the problem solving ability exceptionally we use irrelevant materials. Because it helps us to know whether the student is able to identify the relevant material to solve the given problem or not.

3. Avoid the use of questions or exact problems used during instruction : The exact questions discussed during the class-room instruction should be avoided. The questions should be novel and unique.

4. Negative statements should only be used when it is required : Items that are negatively stated, sometimes put the examinee in confusion. It is easy to construct a negatively stated item by picking text book statement and turning it into a negative statement. But sometimes it is desirable to phrase the stem question to ask not for the correct answer, but for the incorrect answer.

5. There should not be any grammatical link between the stem and the alternatives : Some times the grammatical link between the stem and alternatives give clue to answer the question.

Example

Poor : The famous psychologist I.Pavlov is a

- (a) American (b) Indian
(c) Russian (d) African

Better : The famous psychologist I. Pavlov belongs to which country ?

- (a) America (b) India
(c) Russia (d) U.K.

6. All the distractors should be homogeneous in nature : All the distractors should be so framed that each distractor seems to be correct answer. Students those who have not achieved the desired learning out-come, the distractor should be more attractive for them. This distracting power of the distractors can be judged, from the number of examinees elected it. If a distractor is not attempted by any body it should be eliminated or revised.

7. Avoid the verbal association between the stem and the correct answer : Sometimes verbal association between the stem and the correct answer provide an irrelevant clue to answer the question. Rather the item can be made effective by making the distractors verbally associated with the stem instead of the correct answer.

Example

Poor : To get the data about the developmental works of your locality which agency you will consult.

- (a) Panchayat office (b) Local block office
(c) Tahasil office (d) Agriculture office.

Better. Which agency you will consult to get the data of developmental works of your locality

- (a) Panchayat office (b) Block office
(c) Tahasil office (d) Local Agricultural office

8. All the alternatives should be equal in length : There is a tendency to

express the correct answer in a greater length than other alternatives. This provides a clue to choose the alternative as correct answer.

9. **The correct answer should be clear, concise, correct and free of clutter.**

10. **The responses 'all of the above' and 'none of the above' should only be used when it is appropriate :** Sometimes the responses like 'all of the above' or 'none of the above' are added as the final alternative.

The response 'all of the above' forces the student to consider all the alternatives and increase the difficulty of the items. But the case of this response as the correct answer is appropriate, when all the preceding alternatives are entirely correct to the item.

The response 'none of the above' is used either as the correct answer or as a distractor. Sometime to avoid the distractor which are more difficult than the correct answer the alternatives are added.

Example :

Misuse of the response :

Which one of the following is not an example of above :

- | | |
|------------|------------------------|
| (a) Crow | (b) Bat |
| (c) Parrot | (d) None of the above. |

(Here the examinee may answer 'd' as the correct response)

Better use of the response :

Which word is misspelled.

- | | |
|----------------|-----------------------|
| (a) Permanent | (b) Temperament |
| (c) Cantonment | (d) None of the above |

11. **When other item types are more effective than multiple-choice type item should not be used :** When other items proved effective to measure learning outcomes at that time unnecessary favour should not be shown to multiple choice items. There are also some learning outcomes which cannot be measured by multiple choice items in that case other item types like—short answer, true false or matching type may be used.

12. **Number of alternatives in each item need not to be same.**

Uses of Multiple Choice Items

Multiple choice items have a wide applicability in measuring student achievements. Except some special learning outcomes like ability to organise, ability to present ideas all other learning outcomes can be measured by multiple choice items. It is adaptable to all types of instructional objectives viz. Knowledge, understanding and application. Following are some of the common uses of multiple choice type items.

➤ **To measure knowledge of terminology.**

Multiple choice type items can be used to measure the knowledge of terminology. A student is asked to select either the accurate definition of the term or the accurate term for a given definition.

Example :

Which one of the following central tendency indicate exact midpoint of the distribution.

- (a) Mean (b) Median
(c) Mode

➤ **To measure knowledge of specific facts.**

Knowledge of specific facts can be measured with multiple choice type test items, like dates, name, places etc.

Example

Who was the first primeminister of India.

- (a) Sardar Patel (b) M.K. Gandhi
(c) J.N. Nehru (d) Mrs. Indira Gandhi

When did orissa become a separate state ?

- (a) 1935 (b) 1936
(c) 1937 (d) 1938

➤ **To measure knowledge of principles.**

Multiple choice type tests are very much useful to measure the knowledge of principles.

Example :

The law of effect in learning explains

- (a) the effect of stimulus on learning
(b) How learning affects the learner
(c) effect of learning on stimulus.

➤ **To measure knowledge of methods and procedure :**

Methods and procedures related to laboratory experiment, teaching learning process, communication process, procedures regarding the function of a government, bank or organisation can be best measured by the multiple choice type items.

Example :

Which one of the following method is best suitable to teach history in class-VI

- (a) Lecturer Method (b) Experimental Method
(c) Discussion Method (d) Story Telling Method

➤ To measure the ability to apply the knowledge of facts and principles in solving problems.

In order to know the understanding level of the students they must be asked to identify correct application of fact or principles. Multiple choice type items can be used to measure this ability to apply.

Example :

The principle of surface tension explains that

- (a) the shape of the liquid molecule.
(b) how liquid passes from the surface to other surface.
(c) the upper and the lower meniscus of the fluid in capillary tube.

➤ To measure the ability to interpret cause and effect relationship.

One way to measure the understanding level is to ask the students to show the cause and effect relationships. Here the examinee is presented with some specific cause and effect relationships in the stem and some possible measures in the alternatives. The student has to find out the correct reason.

Example :

A piece of ice will not submerge in water because.

- (a) Low density of ice than water.
(b) Equal density of ice and water.
(c) High density of ice than water.
(d) None of the above

Advantages of Multiple Choice Items

- Multiple choice items are very much flexible. So that it can be used to measure a variety of learning objectives—knowledge, understanding and application areas.
- It is free from ambiguity and vagueness if carefully constructed.
- Chance of guessing is low than the true-false items.
- It does not require homogeneous items like matching exercises.
- It is more reliable than the true-false items as the number of alternatives are more.
- It is easy to construct quality tests with multiple items.
- It possess objectivity in scoring.

Limitations of Multiple Choice Items.

- It is limited to learning outcomes at the verbal level only. As it is a paper-pencil test it only measures what the pupils know and understand about the problem situation but does not measure how the pupil performs in that problem situation.
- It is not effective to measure learning outcomes requiring the ability to recall, organise, or represent ideas.
- It is not completely free from guessing.
- Guessing factor is more in multiple choice type items than the supply type items.

CLASSIFICATION OR INTERPRETIVE ITEMS :

Interpretive items "consists of a series of objective items based on a common set of data." The data can be presented in different forms like—written materials, graphs, charts, maps, pictures or tables. It can measure complex learning outcomes based on higher mental process like understanding, thinking, problem solving, evaluating etc. These items have two parts (1) Introductory material (2) Series of dependent items.

Example :

Rearrange the following events in order of chronology by putting 1, 2, 3, 4, 5 and 6 according to its occurrence.

- _____ First war of independence
- _____ Civil disobedience movement
- _____ Quit India movement
- _____ Battle of Plassey
- _____ War of Kalinga
- _____ 1st Battle of Panipath

Principles for Constructing Interpretive Items.

As interpretive items measure important and higher order learning outcomes, so it must be constructed carefully. The following principles help in constructing effective interpretive items.

1. The introductory material should be relevant to the context objectives.
2. Effectiveness of this item depends upon the introductory material. It should not be too simple or too complex.
3. The introductory material should be according to the curricular experience and reading ability of the students.

4. The introductory material should be novel one. It should not be identical to those used during instruction.
5. The introductory material should be short and meaningful.
6. The test items should be according to the analysis or interpretation asked in the introductory material.
7. The test items should be homogeneous in nature.
8. The introductory material and the test items should be approximately equal in length.

Uses of Interpretive Items

- It is useful in measuring the ability to recognise the relevance of information.
- It is useful in measuring the ability to apply the principles and methods.
- Interpretive items are used to measure the ability to recognise assumptions.
- It is used to measure the ability to use pictorial materials.

Advantages of Interpretive Items.

- It is possible to measure the ability to interpret maps, graphs, charts, tables etc. with interpretive items.
- It can measure more complex learning outcomes than any other objective type test items.
- It minimizes the irrelevant factual information.

Limitations of Interpretive Items

- It is difficult to construct. It requires more time and greater skill to construct interpretive items than any other objective type items.
- It requires higher level of reading skill from the students.
- It requires more time in answering the test than other objective type items.

ESSAY TYPE TESTS

In class room testing essay type tests are very popularly used. Specially we found its intensive use in the higher education. History shows that in China essay type test were in use earlier to 2300 B.C. and in the beginning of 20th century this was the only form of written test.

As we have discussed in the earlier section of this chapter objective type tests are effective in measuring a variety of learning outcomes. Still there are some complex learning outcomes which cannot be measured by the objective

type test items. Learning out-comes concerning ability to recall, organise, and integrate ideas ; the ability to express oneself in writing ; and the ability to supply ideas cannot be measured with objective type tests. Measurement of these outcomes require essay type items.

Essay type tests are those tests in which the examinee is asked to discuss, enumerate, compare, state, evaluate, analyse, summarise or criticise, includes writing at a specified length on a given topic involving the process listed above. In essay type tests pupil are free to select, relate and present ideas in their own words. So that the distinctive feature of essay type test is the freedom of response. Essay type tests can be divided into two categories according to the freedom provided to the pupils.

(a) Restricted Response Type Tests.

(b) Extended Response Type Tests.

(a) **Restricted Response Type Tests.** These classification are made on the basis of degree of freedom provided to the pupil in answering the test. The content and the response are limited in the restricted response type questions. Content is restricted by directing the student to discuss specific aspects of the topic. Responses are restricted by the form of question.

Example :

Explain five causes of failure of Basic Education ?

Differentiate between objective type test and essay type tests with in 100 words.

Major uses of restricted response type test are as following.

Uses :

Restricted response type questions as used to measure ability to explain cause and effect relationships.

to describe application of principles, to present relevant arguments, to formulate hypotheses, to formulate noted conclusions, to state necessary assumptions, to describe the limitations of data, to explain methods and procedures etc.

(b) **Extended Response Type Test :** Extended response type test items are those which "allows pupils to select any factual information that they think is pertinent, to organise the answer in accordance with their best judgement, and to integrate and evaluate ideas as they deem appropriate"—Gronlund and Linn. There are some complex behaviours which cannot be measured by objective means can be measured by extended response questions.

Example :

"Today India needs an idealistic system of education." Do you agree this view ? Justify your statement.

Compare the status of women education of Vedic period with that of Budhistic period.

Test experts are of the opinion that due to high unreliability in scoring use of these tests should be minimum. It should be used to measure only complex learning outcomes which cannot be measured by any other test devices.

Uses :

Extended response type tests are used to measure the ability to plan, organise and express ideas, to integrate learnings in different areas, to create some original forms and designs, to evaluate the worth of something.

Principles of Constructing Essay Type Tests

As essay type tests measure some of the complex achievements which cannot be measured by objective type tests. So it requires improvement and care for its construction. The construction of essay type test involves two main functions (a) Constructing essay type questions that measure desired learning outcome (b) developing a reliable method to score. Following principles help to prepare a good essay type test with good questions and better method of scoring.

Principles of Constructing Essay Questions

1. The questions should be so stated that the defined instructional objectives are clearly measured. Like objective type tests the essay questions should be based on specific learning objectives. The statement of question should be phrased in such a manner that it calls forth the particular behaviour expected from the students. Restricted response type items are more effective to elicit particular learning outcomes than extended response type items.
2. The pupil's task should be stated as completely and specifically as possible. The question should be carefully stated so that the pupil understands what the test maker intends to measure. If the idea is not completely clear an explanation should be added to it.
3. Choices among optional questions should not be given to the pupil unless it is very much necessary. It is a practice to provide more questions than they are expected to answer and to allow them to choose a given number. For example they are asked to answer any five out of 10 questions. In this case different pupils answer different questions, the basis for comparing their scores is not possible.

is difficult. As the student tends to answer best five so that the range of the test scores will be very narrow. It also affects validity of the test results. Because the students may select a portion of the context and get advance preparation, this provides a distorted measure of pupil's achievement.

4. Approximate time limit for each question should be indicated. While constructing an essay question the test maker should decide the approximate time required to answer that question. Thus time limit for each question must be indicated in the test, so that the students will not be puzzled at the end. If the test contains different sections like objective type test and essay type test separate time indication for each section must be given.

5. Use of essay type tests should be limited to measure only those learning outcomes which cannot be measured by objective type items. As objective type tests are more reliable, valid and objective than essay type tests, therefore when the learning objectives can be measured by objectivity tests at that time essay type tests should not be used. But when objective items are inadequate for measuring the learning outcomes at that time essay type questions must be used inspite of their limitations.

Principles of Scoring Essay Questions

Effectiveness of the essay questions as a measuring instrument depends to a great extent on the scoring procedure. Improving a objective scoring procedure we can improve the reliability of an essay question. The following principles of scoring help to develop comparatively more objective procedure of scoring.

1. Scoring should be made question by question rather than student by student. Reliability of essay test results are affected due to variation in standard. This means when an average answer script is valued just after a failed answer script the score might be higher than expected. This can be avoided by evaluating answers question by question instead of student by student.

2. The examinee's identity should be concealed from the scorer. By this we can avoid the 'halo effect' or biasness which may affect the scoring. The answer to different questions should be written on separate sheets with a code number. Then it should be arranged question wise and scored.

3. An outline of the major points to be included in the answer should be prepared. The test maker should prepare a list of major points to be included in the answer to a particular question and the amount of marks to be awarded to each point. Preparation of this scoring key will provide a basis for evaluation ultimately it will provide a stable scoring.

4. Decisions should be made how to deal with factors that might affect the learning outcome. Factors like handwriting, spelling, sentence structure,

neatness etc. and style of presentation affect the test scores. While evaluating answer care must be taken to deal with these factors.

Advantages of Essay Type Question :

- Essay type tests measure some complex learning outcomes that cannot be measured by objective type test.
- The essay type test especially the extended response type questions emphasise on the integration and application of thinking and problem solving skills, which cannot be measured effectively by objective type test.
- In essay type test the pupils have to present the answer in their own handwriting therefore it is a right device to measure the writing skills.
- Essay type tests have a wide spreaded use by the class-room teachers because of its ease of construction.
- Essay type tests are easy to construct. So that class-room teachers use these tests very frequently.

Limitations of Essay Type Question :

Essay type tests have serious limitations. Limitations of essay type tests are so serious that it would have been discarded totally unless it measures specific learning outcomes which cannot be measured by objective type test items.

- Unreliability of scoring restricts the use of essay type tests. Different teachers scoring an essay type question may arrive at different scores. Even the same teacher scoring it at two different times get two different scores.
- It requires expert personnel to score essay type tests.
- It requires more time in scoring essay type questions.
- Essay type tests are limited in sampling. It can cover a limited range of course content as well as instructional objectives.

MODEL QUESTIONS

1. What is objective type test ? Explain any four types of objective type test items with example.
2. Discuss briefly with examples the difference between objective type and objective type tests.

3. Explain with examples the nature of any two types of objective type test items.
4. What is multiple choice type test items ? Explain with example the principles of constructing multiple choice type test items.
5. What is objective based items ? Discuss different types of 'Recall' and 'Recognition' items with suitable examples.
6. Discuss 'subjective tests' and 'objective tests' with suitable examples.
7. What are the need of essay type tests ?
8. Write short note on the following .
 - (a) True-false test items.
 - (b) Matching type test items.
 - (c) Supply type test items.
 - (d) Restricted response type items.
 - (e) Extended response type items.

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