

Quadrant-I (e-Text)

Details of Module and its structure

Module Detail	
Subject Name	Education
Course Name	Assessment for Learning
Course Code	EDU503
Module Name/Title	Stating objectives as learning outcome: general and specific; Construction & writing different forms of questions: very short answer, short answer, essay type, objective type, situation based with their merits and demerits.
Module Code	AFL010
Pre-requisites
Learning Outcomes	After going through this lesson, the learners will be able to: <ol style="list-style-type: none">1. Write down the meaning of general and specific learning outcomes.2. Conceptualize different forms of questions.3. Frame objective and essay type questions.4. Analyse the merits and demerits of objective and essay type questions.5. Differentiate between supply type and selection type of items in objective questions.
Keywords	Item writing, MCQ, Objective and subjective Item, W/R,T/Matching type Items

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1.0 Introduction

For a test to be sound it is essential that question or items must constructed in such a manner that it measures what they are intended to measure? Generally conventional wisdom of test writers have provided guidance on how to devise test items that do not clue or unnecessarily confuse examinee's response. Since 1960, with the growth of criterion referenced testing, item /questions writing techniques increasingly have focused attention on the nature and structure of test content and ways to define and operationalize what is being measured. Newer item writing technology provide explicit, specific rules to help insure that test questions measure particular domain of knowledge, skill and abilities. This chapter provides an overview to write different form of questions with examples along with their merit and demerits.

2.0 Construction and writing of different type of Questions

During Assessment through testing method once the purpose of testing has been established the next step is to ensure content specification, type and number of questions which will be used in test. Before writing a question or an item it is important a question writer must know conventional guidelines. Conventional item construction guidelines concentrate on factors such as linguistic, semantic, and grammatical features.

3.0 Objective type question witting

The most commonly used kind of objective items are multiple choice, true-false, matching, classification, and short answer. An objective or new type item is one fixed correct answer, which either examinee give on his own or he is required to select from a given few. All objective items can be divided in to two broad categories the Supply type and the Selection type.

In Supply type item the examinee is to write down the correct answer on his own while in selection type examinee select correct answer from a given few. Supply type of items or questions can be divided in two categories as the unstructured short answer item and the completion item or fill in the blanks. In the short answer item students must supply a word, phrase, number, or other symbol. It is inordinately popular tends to be used excessively in class room test. In the elementary grade where emphasis is on the development of vocabulary and concept formation it serves useful function.

4.0 Typical Rules for short answer and completion items

During writing the short answer as writing the completion question writer must keep in the following points in mind.

- 1- A direct question is generally better than an incomplete statement.
- 2- The item or question must not be ambiguous. Word the item so that the item must be brief and unambiguous.

Ambiguous questions:

1-Kashi Hindu Viswavidyalaya was founded in

The above question has two possible answers i.e. Varanasi or 1916 and both of which are correct. So if the item writer write it in clear cut form as, Kashi Hindu Viswavidyalaya was founded in the yearor Kashi Hindu Viswavidyalaya was founded in the city known as.... then it is good frame of question.

3-where the answer is to be expressed in numerical units indicate the type of unit wanted.

4-Blanks for answer should be equal in length.

5- For completion items do not leave many blanks.

6- For completion items leave blanks for only those things that are important to remember.

7- In completion type short answer type question don't take statements verbatim from students text book or instruction.

8- Avoid clues which give a direct hint to the correct answer.

5.0 Short answer type questions examples

Direction - In the following questions write words, numerals or partial statements that seem most appropriate.

Q1-What is the valance of carbon?

Q2-Sliding friction isthan the static friction.

Q3-The size of the pupil becomeswhen you see in dim light.

Q4-Loudness is determined by theof vibration.

Cairo...

Paris.....

Calcutta

Some test specialist suggests that a variety of items be used by examiner in order to diversify the task presented to the examinee. They imply that this will improve the validity of the scores or make the test more interesting.

Completion Items have also some disadvantage as the higher order learning such as synthesis, application, analysis, application of scientific

principles etc. not measured by such items. These items mostly check the recall and recognition type ability of learners so it mostly covers the memorization skills. So further answers when not more than a word or

Phrase tend to be somewhat superficial and to place a premium on purely verbal or rote learning.

Another type of objective type of questions or items categorized as **selection type** where the examinee is required to select the correct answer from the few given answers. These are further classified as two alternative type items and multiple choice items and matching type items.

6.0 Two –alternative Item/ Questions

True- False type questions: True false form of questions is expressed in form of declarative statement, which is either entirely true or false. Compared with other item formats, true – false items are relatively easy to write. Research evidence has shown that the students can attempt three true false items in the time required to attempt a pair of multiple choice items.(Frisbie,1973,1974) Offsetting this advantage a disadvantage of such items are its discriminating power. True false items tends to discriminate less well between high and low achieving students than multiple choice.(Eble, 1980) In sum, a good one hour true false test items probably as effective as a good one hour multiple choice test.

Examples of the true false type question.

- 1-Like charges attract each other. True/ False
- 2-Sound can travel in vacuum. True/ False
- 3-Angle of incidence is equal to the angle of reflection always. True/ False
- 4-Earthquakes can be predicated in advance. True/ False
- 5-For human ears the audible range is 20 Hz to 20000 Hz. True/ False

The value of true- false test questions can be explained in following way.

- 1-These are useful in assessment of verbal knowledge.
- 2-All verbal knowledge can be expressed in propositions.
- 3-A preposition is any sentence that can be said to be true or false.
- 4-The extent of student's command of a particular area of knowledge is indicated by their success in judging the truth or falsity of propositions related to it.

Some suggestion regarding writing true false or two alternative items are as:

- 1-The statements must be simple and straightforward and not complex and indirect.
- 2-The statement must be either entirely true or entirely false so that only one interpretation is possible.

For example-

The capital of India is Delhi. (True/ False) Poor Form

The capital of India is New Delhi. (True/ False) Improved Form

- 3-Double negatives must be avoided because they tend to confuse the examinees. For example-

Poor form of question: In critical situation an umpire would not be able to give right decision in cricket match regarding out or not out if there is no third umpire.

Improved Form – In the absence of third umpire in critical situation an umpire is unable to get an accurate decision regarding out or not out.

4- True statements and false statements should be approximately the same length.

5-The number of true statements and the false statements should be approximately equal.

6-Avoid taking statements verbatim from student's text or instructions.

7-Avoid long complex sentences. Include opinion statements only if they are attributed to particular sources.

8-The exact authority should be mentioned if the statement of the question is controversial.

9-Avoid broad general statements for true – False items.

10-Try to avoid specific determiners which help examinees in finding out correct answer such as never, nothing, always, all and none are likely to be more false than true. When such words are used in a false statement it provides additional clue to correct the answer.

11- Likewise, the statements such as often and sometimes likely to be more used in true statements than false so they provide additional clue. Hence such determiners must be avoided during writing statements in true and false type of questions. Disadvantage of true false item is the impact of guessing. These guesses may be blind guessing or informed guessing which affect the reliability of scores. The second major criticism for true false items is that they are frequently ambiguous. The other criticism for true false items is that these items often check only factual details. Students encourage memorization in support of this type of questions.

Some examples are as the battle of Hastings was fought in 1066.

12- There are nine planets in the solar system.

But the researcher who is expert in writing items can also use true false items to check the comprehension and application skill of the learner. For example item as when a hand pushes a door with certain force, the door pushes back on the hand with the same force (T) is better than the rote stereotyped phrase as for every action there is an equal and opposite reaction.

Short answer questions Items:

A short answer test item aims to test knowledge by asking examinees to supply a word, phrase or number that answers a question or complete a sentence.

Items examples are as,

1-Who discovered the insulin treatment of diabetes? Ans.- Banting

2-The name of the holy city of Islam isMacca...

3-What is the common name of each of these chemical substances.

NaCl, H₂O, NaOH, H₂SO₄.

For writing short answer items it is important to word the question or incomplete statement carefully enough to require a single, unique answer. If

the item is an incomplete sentence, try to word it so the blank comes at the end of the sentence. Use a direct question unless the complete sentence permits a more concise or clearly defined correct answer. Word the item/questions as concisely as possible without losing specificity of response. Avoid using the conventional wording of an important idea as the basis for short answer item.

7.0 Multiple choices Item writing

In multiple choice items there is one stem in the form of a question or incomplete statement, which is generally followed by a set of three to five answers or options. The stem also known as premise, it presents the problem. The correct response is called key answer and the remaining options are known as distractors or foils. The aim of such distractors is not to confuse the examinee but to provide a very plausible alternative which he may choose in preference to the keyed alternatives if he does not know the correct answer. Multiple choices are difficult because the distractor and key response are very similar. The greater the similarities the more difficult are the question. Through multiple choice question knowledge, vocabulary, analysis, synthesis, application level knowledge, cause and effect association, difference, error, ability to interpret data easily measured by test constructor.

Typical rules for multiple choice items:

- 1-The stem of the item should be meaningful by itself and should present a clear problem.
- 2-the stem should be free from the irrelevant material.
- 3-All alternative should be grammatically consistent with the item stem and of similar length so as not provide any clue to the answer.
- 4-An item should include only one clear and correct answer.
- 5- All distractor should relate to the body of knowledge and learning experience measured.
- 6- Verbal association between the stem and correct answer or stereotyped phrase should be avoided.
- 7- The correct answer should appear in each of the alternative position with approximately equal frequency and in random order.
- 8- Special alternative such as none, all of the above should be avoided.
- 9-Negatively stated items should be used sparingly.
- 10-Avoid alternative that are opposite to in meaning.
- 11-Avoid use of difficult words, irrelevant vocabulary, sentences and structure.

Some example of MCQS-

Multiple questions needed clarity. It is important each of the alternative answer should be appropriate to the question asked by the stem as for example-

Slavery was first started.

- a- At Jamestown settlement.(Key answer)
- b- At Plymouth settlement
- c- At the settlement of Rhode Island

d- A decade before the civil war.

Familiar expression and phrases provide useful distracters.

For example in following example- Chaotic and confused represent an appropriate difficulty for the vocabulary test so the remaining distractor are obviously too difficult.

A chaotic condition is

a- Asymptotic

b- Confused

c- Gauche

d- permutable

There is need for parallel structure between stem and responses for gaining efficiency in multiple choice questions. Along with this there is need to not use so complex and long responses.

8.0 Essay Type Questions

An essay item is one in which the examinees write their answer by his /her own words. This gives him an opportunity to recall and express his ideas in the manner he likes, coordinate, organise and interpreted it. So such type of questions requires the student to compose the responses usually lengthy. Essay types are not really appropriate for knowledge level outcomes which typically need recall and use of information as factual information. Such type of knowledge can be best measured in objective type of questions. For certain higher order outcomes such as capacity to synthesis, critical thinking, originality, ability to integrate and evaluation can be test through essay type of test. Essay type of test is two types as short answer type and long answer or extended answer type. A short answer essay type of test is one where the examinee supplies the answer in one or two lines and is usually concerned with single concept.(Marshall &Hales,1972)A long answer essay item is one where the examinee answer comprises several sentences. The following examples illustrate the two varieties of essay items as.

1-Describe the meaning of validity of educational test? (Short Answer essay item)

2-Describe the method of estimating reliability and validity of an educational test? (Long Answer type test question)

The primary merit of such type of items is that they encourage the examinee to give a coherent and organized picture of his /her memory and past experience. Thinking and writing are the important in essay type tests whereas reading and thinking important in objective type of test.

Construction of Essay type Items:

In order to write a good essay item it must be kept in mind that an essay type question must contain defined problems. If you construct essay type test with one or two fuzzy questions such as Discuss validity and discuss reliability? You are practically guaranteeing low quality test but if you practically know the potential problem and include clearly stated items then you increase your chances of producing the test with at least adequate validity and reliability.

As objective questions are more difficult to construct but are easier to score while essay test are tough to score but relatively easy to construct. During Essay type question construction it is important do not tell the student to simply discuss tell them what to discuss and use phrases with descriptive term such as develop a budget and design a lesson plan. Aspects of expected outcomes should not be left to the student's imaginations if you want students do define terms or give examples then use that instance in the instruction of the item.

Notice how each succeeding item makes the task progressively clear.

1- Analyze the above set of data?

2- Analyze and interpret the above set of data using descriptive and inferential statistics.

2a- Summarize and describe the data using inferential statistics?

2b- Statistically analyzes the data using inferential statistics?

2c- Interpret the result in terms of the research hypothesis.

Thus in the above example in question 2 at least three different objectives clear so if the essay type of items split in subsections then depending upon nature of section marking or scoring done by evaluator and easy to check the desired outcome behavior.

As it is well said the scoring of essay test is a difficult and time consuming. While it is subjective process but it can be minimized by careful planning and scoring. The analytical approach involves identifying all the aspects of components of perfect answer and assigning a point value to each. The global approach, also referred to as the rating method and holistic approach, result in more subjective, less reliable scoring, but because it takes less time ,it is frequently used when a large number of students is involved. Objectivity of scoring is promoted by item – by item scoring. It is highly recommended that essay responses be read and scored twice, independently, before points are assigned. Ideally they should be scored by two independent persons. Along with this always good practice need to write feedback on essay items in the form of both correction and positive comments.

Demerit of Essay type Items:

Generally in essay type test the examinee is usually required to write down the answer in their own words. This gives an opportunity to recall and express their ideas in the manner as they like. Examinees are free to relate their ideas with some principles and organize them into coherent whole. A common drawback of such items is that test is some time evaluate on the basis of good hand writing, fluent and graceful structure of sentences may hide some of the defects of the content of the answers and influence the score judgments favorably. On the other hand any minor errors in the structure of the sentence unfavorably influence the score's judgment regarding the content of answer.

In objective type of test the examinee is not provided the opportunity of free expression.so the reliability of the test item is more than essay type of test. In objective type of item the quality of the items is dependent upon the skill of the test constructor but in essay type of test quality of test depends upon the quality of the scorer's skill. Objective test items, no matter how well they are constructed ,permit and encourage guessing by the examinees, whereas

essay type items, no matter how well they are constructed ,permit and encourage bluffing by examinees. Assignment of numerical scores in essay type test is entirely in the hands of the scores whereas assignment of numerical scores bin objective type of test depends upon scoring key of the manual.

9.0 Summary:

In module entitled assessment for learning writer explain item writing , different type of items such as true- false, and short answer type of questions, MCQ, Objective and subjective Item, W/R, /matching type Items etc. All items writing style given in detail with examples. In module merit and demerit of objective -subjective type of items explained. In above text typical rules for writing of different items also given. In module certain examples of different questions write in poor and correction form which give understanding to the learner to write correct form of different type of items.

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Assessment for Learning

Module: AFL004

Quadrant-III - (Learn More / Web Resources / Supplementary Materials):

Books, articles, research papers, journals, case studies etc.:

- Singh, A. (2002). *Tests, measurements and research methods in behavioural sciences*. Patna: Bharati Bhawan.
- Gay, L. R.(1980). *Educational measurement and evaluation*. Ohio: Charles E. Merrill publishing Corporations .
- Ebel, R. L. (1965). *Measuring Educational Achievement*. Englewood: New Jersey Prentice –Hall
- Freeman, F.S. (1962). *Theory and Practice of psychological testing*.(2nd ed.). New York: Rinehart and Winston (Indian edition)

Links to web sites giving additional readings, Wikipedia, blogs, open source content etc.

- Theodore R.V. (2014) A comparison of essay and objective examinations as learning experiences. *The journal of educational research*.41 (4) pp.279-288.Retrieved from www.tandfonline.com
- Heaton, J. B. (2012). *Classroom testing longman key to language testing*. London: Addison wesley publishing company.

Glossary:

1-Short- answer items- Basically a short – answer item is short essay item and the difference between them is often blurred ;short answer items are best suited for questions requiring a brief response- a word, a phrase, or a sentence.

2-Funnel questions: Questions dealing with a particular topic in a questionnaire ordered from the most general to more specific.

3-Test: Test is defined as a series of questions on the basis of which some information is sought. Both quantitative and qualitative assessment is possible through testing.

4-Speed test: Speed test are those that have severe time limits and are comparatively easy and difficulties involve in this test are more or less of the same degree.

5-Power test: A power test is one which has a generous time limit so that examinees are able to attempt every item but the difficulty value of such items are more amnd arrange in increasing order.

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Assessment for Learning

Module: AFL004

Quadrant-IV: (Self-Assessment) For Self-Assessment

Multiple Choice Questions with answers:

1-In Essay type questions a test constructor pay attention on directives why?

- a- Directives ask examinee to answer in a particular way.
- b- Directives give clue to the examinee.
- c- Directives are misconceptions.
- d- Directive presents the evaluation part of questions.

2-Supply types of questions are those,

- a- Where examinees select the key answer from given options.
- b- Where examinees write the answer in word, or number or phrase.
- c- Long answer type questions
- d- Yes or no type questions

3-Two alternative form of questions demerit is

- a- It is easy to construct.
- b- Examinee can easily select the right answer on the basis of guess work.
- b- It is mostly use for knowing the information, facts, date and vocabulary.
- c- such item take less time in scoring and administration.

4-To raise the reliability of objective type of test what are the parameters,

- a- Ask more true false type of questions in such test.
- b- Use clue based subjective statements as options.
- c- Use strong distractors in multiple types of questions.
- d- Use words such as in never, none etc.

Key answer: 1-a, 2-b, 3-b, 4-c,

Write True & False in the given Statements:

- 5- Matching items measures an examinee ability to associate one thing with other. (True/False)
- 6- A similar type of phenomenon observed in the case of essay test is bluffing. (True/False)

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- 7- In objective type of test the quality of items depends upon the skill of the test constructor. (True/ False)
- 8- Reading and thinking are important in essay type of test. (True/ False)
- 9- Any test can be classified on more than one dimension. (True/ false)
- 10-Atest is means of measuring the knowledge, skill, feeling, intelligence or aptitude of an individual group. (True/ False)
- 11-A power test is one in which the items vary in difficulty, usually being arranged in order of increasing difficulty from very easy to very difficult. (True/ False)

Key answers.5-True, 6-True, 7-True, 8-False, 9-True, 10-True, 11-True.