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Construction of achievement test in mathematics pdf

Academia.edu cookies to personalize content, personalize ads, and improve the user experience. By using our site, you accept our collection of information through the use of cookies. To learn more, view our Privacy Policy x Planning for teaching learning and evaluation in MATHEMATICS UNIT PLAN A unitary plan represents a careful organization of a large block of selected and outlined subject and planned learning experiences. Planning a unit is similar to lesson planning, a unit can have various lessons. Therefore, it may not be completed in a class period. Unit plans are very useful for new teachers because they help them know exactly how much subject in a given topic fits the different age levels of students. A unit is a related learning segment consisting of some lessons along with a picture of its actual execution in the class-room. Therefore, a unit will consist both in the topic and methodology of its delivery to students. After dividing the prescribed program into a number of teaching units, the teacher will decide the time that could be allocated to each unit. After that it can divide each unit into a series of lessons and each lesson should be complete in itself. The teacher will then insert the working scheme into his diary under various headings. Unit definitions: 1. A unit is a large block of related topics that can be examined by the learner. —Preston. 2. A unit is a carefully selected subject scheme, which has been isolated because of its relationship with the needs and interests of pupils. —Samford 3. A unit consists of other subjective sets and related meaningful activities, so as to achieve the purposes of pupils. Provide meaningful educational experiences and results in appropriate behavioural changes. —Bosong. Characteristics of a good unit: 1. The objective should be clear and well defined. 2. It should be based on the principle of psychology. 4. It should be complete integrated whole. 5. It provides for individual differences. 6. It is good only there is an evaluation and follow-up. 7. It should be related with the experience of daily life. 8. A good unit provides activities for students. 9. It gives the teacher the authority to integrate the basic concepts of the course and those of the related areas into the learning needs to be taken in class. Advantages of the unitary plan: 1. It provides a basic structure of the course around which general and specific class activities or teaching can be organized. 2. Clarifies the general objectives and specific objectives of the courses. 3. It helps to develop the democratic atmosphere in the classroom where teachers and students work cooperatively. 4. Develop some skills among students and refine their intuition. 5. It gives the teacher the authority to integrate the basic concepts of the course and those of the related areas into the various teaching experiences. 6. Saves time and develops students' interest in learning. 7. The teacher may meet the needs, attitudes and attitudes based on the individual difference of the students. 8. Students can also apply the knowledge acquired in other life situations. 9. As students independently learn they develop self-confidence, resourcefulness, and addiction. 10. It offers the teacher the opportunity to maintain a balance between the various dimensions of the prescribed course. 11. The unit plan divides a long unit into sub-units or smaller topics so that pupils can easily grasp its scope during a short view. 12. Help the teacher to present various principles and concepts that constitute unity in an orderly and systematic way without losing their continuity. Continuity, it offers frequent opportunities for students to review and reorganize their learning. 14. Help your teacher plan defined learning outcomes. So that they are clear not only for the teacher, but also for the students. 15. Help your teacher plan a variety of learning experiences, taking into account individual differences, the nature of the content, and the goals to be achieved. 16. It allows pupils to clearly see the relationship between the process of various facts and the principles that make up unity. 17. The study profile of the unitary plan provides students with guidance on what to study and how to do it in the most effective way. 4.2. Evaluation in mathematics: Unit Test/Achievement test Teaching and testing are an integral part of the education system. The test is implicit in the teaching of certain stages, which can be correctly marked for test procedures. 1. During teaching. 2. At the end of teaching a daily lesson. 3. At the end of the teaching of a unit. 4. At the end of the term of office. 5. At the end of the year/curriculum. A test at the end of a teaching unit is known as a unit test. Usually the test items take place according to the entire program. A unit test is not a random assessment of questions. It is a pre-programmed, systematic and scientific test. A unitary test is a test that is constructed, administered and evaluated by a teacher after teaching a particular unit to students. Features of the implementation test: 1. The unit test is an evaluation tool for measuring pupils and knowledge outcomes and for improving by providing feedback. 2. It is based on a single unit. 3. It is administered upon completion of the unit. 4. It is clear from the above tests that a unit test is an integral part of the teaching process. Unit testing makes education a dynamic process through continuous evaluation and regular feedback. Steps for setting up a valid test: The steps to set up a good and meaningful unit test are: A) Test planning/design: 1. Unit Analysis 2. Content analysis 3. Weighting by content. 4. Weighting by type of questions. 5. Weighting to objectives. 6. Weighting at difficulty level. 7. Preparation of the blue print. B) Modification of the production test: 1. Construction of items 2. Selecting items 3. Grouping of evidence. 4. Examination instructions. 5. Sections of the application document. 6. Preparation of a marking scheme and scoring key. C) Revision of the question document: 1. Analysis of applications. 2. Critical assessment of the test. Q) Administer the test: E) Interpret test results: 1. Mark response scripts. 2. Analysis of elements (after testing) F) Statistical treatment: 1. Based on trend value measurements 2. Based on quartile points. 3. Based on frequency polygon and histogram. A) Planning (design) of a unitary test: since it is obvious that, a carefully done planning to begin with, the design of the test is prepared so that it can be used as an effective evaluation tool. A suitable design: the validity, reliability, objectivity and suitability of the test. The following aspects should be examined when planning a unit test and are: 1. Unit analysis: here the teacher must examine the entire unit in his sub-units, the sub-units can be listed under the sub-units and must be organized logically. 2. Content analysis: Content analysis shall be carried out for each of the sub-sub-issues separately by listing important facts, concepts, principles, generalizations, etc. 3. Weighting against objectives: the relative importance of each objective must be considered. For information material Mathematics is the objective is the understanding of knowledge, application and skills. The main task in this case is to decide the weight to be given to the different objectives included in the unitary plan. This weighting should be decided by a committee of experts, including the teacher in the classroom. 5) No percentage of Objective 1 score Remembering 5 10% 2 Comprehension 15 30% 3 Application 20 40% 4 Skills 10 20% 100% 4. Content weighting: The content of a unit is taught in the classroom by providing appropriate learning experiences. The whole subject will not matter as much. Therefore, in order to test the understanding of the content, proper weighting must be provided by examining the nature, scope and importance of the content. The weighting of the contents must be provided in a unitary manner and the teacher must not use any content/sub-units must be moved. 5) No. Sub Units Marks Percentage 1 Collection concepts 5 10% 2 Notation 5 10% 3 Set types 15 30% 4 Subsets 5 10% 5 Union set 5 10% 6 set intersection 5 10% 7 Venn diagram 10 20% Total 60 100%. 6. Weighting by the type of questions: to test different skills and subunits, different forms of use of the traditional form of the questions of the essay. To test various learning outcomes we have to use the objective type, the very short type of answer, the type of short answer and the essay questions. We must use these kinds of issues according to their suitability, etc. So that they can achieve our educational goals. 5) No. type of questions Number of questions Percentage score of writes Q) Objective 25 9 18% 02 Short answer Type 8 18 33% 03 Essay type 3 25 50% Total 36 50 100% Weight at difficulty level: It is an accepted fact that in a class there are 3 types of pupil average above, below average as a result the test should not be difficult too easy. The test should provide an adequate opportunity for bright, middle and weak students in the class. The teacher expected to classify the elements into three levels - difficult and easy average. Difficulty level using percentage Easy 15 30% Average 25 50% Difficult 10 20% Total 50 7. Blue printing: Blue printing is a three-dimensional graph that shows the weighting given to the objectives, content and types of questions in terms of signs. It helps to improve the validity of the content of the tests carried out by the teacher. 2. Defines as possible the scope and emphasis of the test. 3. It shall related the objectives to the content. 4. It serves as a guide to build the unitary test. Blue print Knowledge of content Understanding application skills Total sub units I Sub unit II Sub unit III Unit test modification: once the project has been thoroughly prepared. The next step is to edit the test in the form in the application document. When editing the test, the following points to keep in mind: 1. Object construction: A teacher must edit or prepare the number of questions about the unit. Items must be of variety. Like the type of essay, the very short type of answer, the type of short response and the objective type etc. The construction of evidence is necessary to identify the objectives and its specifications that the article intends to measure. Items must be on all subabilities. 2. Selection of test elements: The teacher must select the relevant article based on the blue print. Based on the coverage of the content of the objectives, the type of application requested. They should have a scoring key and marking scheme to clarify better. C. Grouping of evidence: We must group the selected evidence into different categories depending on the type of evidence. 4. Instructions to examine: There are two types of instructions in question document. 1. General education 2. Specific statement The general statement should be given at the beginning of the question paper. (a) This document is presented in three sections (A, B, C) B) All questions in the section are mandatory C) About the time, the means of reply. Specific instructions allow the examinee to understand how to answer a question. 5. Sections of the question document: In general, the objective elements grouped in the section A short answer in section B, Essay type in section C. 6. Preparation of the marking scheme and scoring key: The marking scheme should be prepared for the essay and the type of short answer of questions only the important points to be written in the answer provided in the diagram. The expected response must be assigned with a certain period of time. The scoring key must be prepared for objective type elements. C) Revision of the question document: 1) Analysis with regard to questions: each question must be considered separately and analyzed in terms of sub-unit, objective and type of specifications of the assigned question marks, deadline for answer. The purpose of question wise analysis is also to know the strength and weaknesses of the question paper, to count the documents with blue print, to determine the validity of the contents and for the satisfaction of the paper. 5) No. Sub Unit Objective Specification Type of Q) Marks Time limit Difficulty D) Critical evaluation of the test: It is carried out to ensure the correctness, the work of relevance and the distractor of the article. All Questions must be free from grammatical errors and relevant to the unit taught, the age level of the examinee and the distractor shall be administered uniformly in objective questions. The application document must cover the entire content. The test card must be graded according to the level of difficulty. No hypothesis work should be encouraged. D) Administer the test: the revised question paper should be administered to students. The teacher gives instructions to the students and should see the teacher should supervise the students is prepared. The analysis per item is performed to know separately the validity of each test element and then the difficulty index of the item is calculated. F) Statistical Analysis: The raw scores obtained from the test document score. After that construct a frequency distribution table. In this table, the teacher takes appropriate class intervals and relevant frequencies. After preparing the table, the teacher calculates the central trend, i.e. Modum, Median, and Mode. With the calculation of the central trend, we interpret that if mean >X, Median the test is negatively tilted and easy if median <X, median the test is positively tilted and difficult, if median = X, median then the test is average. After the teacher has calculated the Quartile division, i.e. Q1, Q2, Q3 based on QDs we can interpret that if Q3-Q2 >X, Q2-Q1, the test is tilted negatively and easily, if Q3-Q2 <X, Q2-Q1, the test is tilted positively tilted if Q3-Q2 = Q2-Q1, the test is even on average. Based on these calculations, the teacher can draw the graphs of the frequency polygon and histogram. Use of a realization test: 1. They help to know the student's results. 2. They are useful to know the weaknesses and strengths of students. 3. They are useful for classifying students. 4. They help to decide the effectiveness of teaching. 5. They help to know that goals are achieved (or) not. They become part of the ongoing assessment. 7. They help the teacher to effectively improve his teaching. 8. They help in the development of self-confidence in facing exams. Exams.

Class: _____ Name of unit: _____

Main objectives of the unit: _____

