

Models of lesson planning for mathematics



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Introduction

Planning the word it contains more weightage as compared to any other word. We can only achieve any target often a proper planning strategy. In planning what is target to achieve is our goal with the available resources. Planning also plays an important role in teaching-learning process. While, doing a proper planning in teaching the class environment got relaxed, teacher enjoys the teaching because the atmosphere as well the situations are properly arranged. By doing an intelligent planning a teacher avoids frustrations. Classroom transactions are also got smooth by using the strategies in a proper manner.

Planning for Instructional Process

Need for Planning

Teaching occupies the central core of your life as a teacher. The teaching includes instruction in classroom tutorials, laboratory, workshops, and excursions, etc. Where teaching is not just an activity to transfer the education to the student but it involves modification in the behavior of the student. While planning, teacher must keep in mind the emphasis may be given to equal Weightage to all the content, not that one should given more focus and other is ignored completely.

- Presentation of material in a logical, systematic, and effective way
- The planning must cover the adequate coverage of subject matter
- The objective may be achieved in the given time
- The time factor and effort must be low and relevant

- The strategies must involve maximum development of child in minimum resources

Advantages of Planning

Planning means systematic organization of subject matter, better utilization and proper presentation of the resource:

- It fosters self-confidence and pride in our work
- The aids are properly explained and used by teacher
- Planning for one subject helps in integrating with other subjects
- A wide development in thinking about teaching is helpful to bring an order of teaching.

Strategies for Planning

Systematic planning of teaching work requires systematic organization of time in the institution. This could be done on long term and short term basis.

1. Long term Planning: Long term planning may be termed as academic work planning that is it for a whole which is to come yet. List of holidays for schools including restricted, gazettes etc. As well as the different program to be organize by the school in the coming year that is activities to be organized as per the festivals as well as the tour and trips for the students. All teachers are allotted with their concerned subjects to be taught by them for the whole year, so that teachers may frame out their plan according to their need. Such plan give a ordered and fresh look to teaching learning practice in school as it was organized at the beginning. Teachers also plan theory courses as well as for practical activities, projects, and science exhibitions etc. Now we

can say that a yearly plan is based on course purpose, course concepts, units, lessons, and evaluation items.

2. Short term Planning: There are the specific activities which are planned by teacher for making their teaching effective which includes framing the lesson plan, use of teaching aid, in between so that the time may be utilized properly while delivering the lesson. Deciding the time limit, appropriate examples, real life incidence, use of appropriate aid all are included in it.

Designs of Lesson Planning

Defining a Lesson

The term lesson is described in many ways by different educationists or teachers. A teacher takes teaching as a job to cover syllabus in the classroom; every class has 6-7 periods in a day (in general, a period runs over 35-40 minutes). A lesson is defined as a blueprint, a guide map, a plan for action. Lesson is a sequencing of teaching acts or events or episode in organized manner to generate a learning environment for our students. The lesson contains topics and sub-topic with necessary contents to be taught to the students in the classroom.

Definitions

N. L. Bossingin his book “ Teaching in Secondary Schools” proposes the following definition of a lesson plan: “ Lesson plan is the title given to a statement of all achievements to be realized and specific means by which these are to be attained as a result of the activities engaged day to day under the guidance of the teacher.”

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The Dictionary of Education defines a lesson plan as a teaching outline of the important points of a lesson arranged in the order in which they are to be presented; it may include objectives, questions to be asked, references to materials, evaluation, assignments, etc. Now you must be clear in mind that lesson planning is a product of short term or micro level planning involving:

1. Identification of definite objectives,
2. Selection of appropriate content and activities,
3. Selection of procedures and methods for presentation of the content,
4. Selection of evaluation exercises and
5. Selection of follow up activities, etc.

Approaches to Lesson Planning

Generally various approaches are used to make a lesson plan. These approaches are Herbartian approach, Unit approach, Evaluation approach, and Project approach.

A brief description is provided:-

1. Herbartian Approach is based on apperceptive mass theory of learning. All the knowledge and information is to be given from outside by the teacher because the student is considered similar to a clean slate. For the students, if an old knowledge makes a base for new knowledge (his previous knowledge or experiences), it may be acquired easily and retained for a longer period.

Herbart has given five steps:- Introduction, Presentation, Organisation, Comparison, and evaluation. The main focus is on content presentation.

2. Unit Approach of Morrison based on unit transaction and planning.

The Morrison's lesson plan of teaching is cyclic; Morrison has given five steps for his 'cyclephase' of teaching:- Exploration, Presentation, Assimilation, Organisation, and Recitation.

3. Evaluation Approach of B. S. Bloomin evaluation approach, education is objective centered not content centered. The focus in this approach is on objective based teaching and testing. It takes into consideration the learning objectives and teaching methods on the basis of the objectives and to assess learning outcomes. Then, a decision can be taken about objectives of learning are achieved or need to provide the revision.

4. Project approach originated by Dewey and W. H. Kilpatrick stresses on group activity, social activity, self activity, and related to real life experiences. It is a pre-planned work completed by a person or group in social condition. Due to many reasons, it is not necessary that a lesson plan made by a teacher will be successful at every place and time. Many factors influence lesson planning such as

- Availability of teaching aids,
- Strength of students in the Class.
- Composition of the Class (Age wise).
- School Location (Area wise)
- The nature of the topic (Medium wise) etc.

The list is not enough, few other factors from own experiences can be added.

Writing a lesson Plan: Many written lesson plans are used by practicing teachers. A teacher needs some information about the class, students and

their background before to attempt the lesson plan. In general, a Macro Lesson plan is divided into many stages/steps. We had introduced the approaches of lesson planning. Now, one can write a macro lesson plan based on different approaches.

1. HERBARTIAN APPROACH

The steps are given below:

1. General information: regarding the topic, sub-topic, subject, time, class, and age level of children.
2. Instructional Objectives (General Objectives and Specific Objectives):
We know that at different grade levels, all subjects have general objectives, and specific objectives are written in behavioural terms. Specific Objectives focuses on the expected outcomes of teaching and the topic in a given time period. These specific objectives also known as instructional objectives, which are observable and measurable. It is required to identify the behavioural objectives and state these objectives in a clear and simple language.
3. Instructional Aids: The development of a new lesson plan is based on the standard and knowledge of students. Instructional are used by the teacher to make understand the chapter or topic easily. One picture delivers the message of thousand words. Teacher assumes that the previous knowledge of students related to the content can test and teaching will become easy through aids.
4. Introduction: in this step topic is introduced mainly through introductory questions or by creating the appropriate situations. New

knowledge or information of students is linked with their previous knowledge by assuming and testing.

5. **Presentation:** In presentation the ways of relevant content is presented. A teacher develops the lesson Plan by asking many questions and receiving responses presented by the students'. Students' response helps the teacher for further presentation of the content. The presentation stage is interactive in the real classroom situation. It depends on teachers' communication and teaching skills like questioning, explaining, giving demonstration and providing reinforcement on desirable student behaviour.
6. **Recapitulation:** This step helps the teacher to find out the extent of learning that occurs during instruction. The teacher does this by asking several questions. This stage provides feedback to the teacher about the teaching learning process.
7. **Blackboard summary:** In the classroom during the instruction, the board is used by the teacher to write the teaching points, summary and explanations. Board is used simultaneously when lesson is being delivered in the classroom.
8. **Home Assignment:** At last, in the end of the teaching session, thought provoking, suitable questions or activities must be planned and given to the students. It gives a chance of revision or practice to the students. Home assignment also gives an opportunity to students to assimilate, whatever they have learned.

3. EVALUATION APPROACH

The design of lesson plan according to this approach consists of three aspects:

1. Input,

2. Process and

3. Output.

1. Input: It contains the identification of objectives in behavioral terms.

These are known as Expected Behavioural Outcomes (EBOs). During this the entering behavior of the learners is also identified. With the help of instructional objectives, the sequence of instructional procedure is determined. These objectives are classified into four categories: Knowledge, Understanding, Application and Creativity. These objectives can be transformed in behavioural terms.

2. Process: This is an interactive stage when teacher actually communicating with students in the classroom. For effective presentation of the content, teacher has to choose different teaching strategies, audio-visual, and all support materials.

3. Output: This aspect of instructional procedure refers to real learning outcomes (RLOs). This is equivalent to terminal behaviour which is measured by using oral and written questions. This aspect is considered for measuring of the desirable change in behaviour of students.

Illustration of Lesson Plan

Format of Presentation: Effective teaching needs proper planning, transaction in the classroom and feedback. Practically there are three stages of a planned lesson: Pre-active, Interactive, and Post- Active.

1. Pre-active stage is a stage of planning before going to the classroom.
2. The Interactive stage is a stage of interaction between teacher and students in the real classroom situation.
3. Post active stage is a stage of self evaluation of our teaching work.

There is not be a single format for writing a lesson plan because it varies from teacher to teacher and subject to subject, the only thing which can be suggested is that it should be a well-organised structure, it follows basic fundamental parts of a lesson. Some of the formats based on different approaches to lesson planning. Teachers' are free to make changes according to the objectives you plan to achieve and the nature of the subject etc.

(i) Herbartian Lesson Plan Format

Subject: Date:

Unit: School:

Topic: Class:

Duration: Period:

1. General Objectives:
2. Specific Objectives:
3. Teaching Aids:

4. Method:

5. Previous Knowledge:

6. Introduction:

7. Statement of the Topic/Aim:

8. Presentation or Development of the Lesson:

Teaching	Teacher's	Students'
Points	Activity	Activity

OR

Conte	Objecti	Teaching-	Evaluatio
nt	ve	Learning	n
		Activities	

9. Recapitulation:

10. Black Board Summary:

11. Home Assignment:

12. Reference:

Note:

1. Order of S. No. 1 to 5 may be changed according to your needs.
2. In presentation/development objectives, teaching-learning activities and evaluation are in relation to particular teaching point/content.
3. If evaluation of students learning is done for each teaching act/episode, then you may ignore recapitulation at the fag end of the lesson.
4. Black board summary should be developed as the lesson progresses.

ii) Bloom's or Evaluation Lesson Plan Format

Subject: Date:

Unit: School:

Lesson: Class:

Duration:

1. Specific Objectives:

2. Previous Knowledge:

3. Introduction:

4. Statement of the Topic/Aim:

5. Presentation:

Objective	Teaching	Teacher's	Students'	
	Method &			Activities
	Aids			Activities

6) Evaluation:

7) Home Work:

8) References:

Note

1. The objectives are to be written in behavioural terms.

2. The teaching activities are to be related to the learning structures.

3. Black Board Summary should be developed as the lesson progresses.

iii) RCEM Lesson Plan Format

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Date:

Subject: School:

Unit: Class:

Topic/Lesson: Duration:

1. Concepts :
2. Teaching Aids :
3. Previous Knowledge :
4. Introduction:
5. Statement of the Aim/Topic :
6. Presentation:

Expected	Sequential	Real
Behavioural	Learning	Learning
Outcomes	Experiences/Acti	Outcomes
(EBOs)	vities (LEs)	(RLOs)

7. Black Board Summary:
8. Home Assignment:
9. References:

Note

1. RCEM is Regional College of Education, Mysore.
2. Concepts are to be identified through content analysis.
3. Black Board Summary to be developed as the lesson progresses.

Characteristics of Lesson Plan

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You may plan your lesson based on any format discussed above, but a good lesson plan must have following characteristics:

1. It must be flexible;
2. Its contents are organized in the light of attainable objectives;
3. It is rich with respect to students activities and evaluation exercises;
4. It has link with the previous and future lesson;
5. It includes relevant home assignment and activities for students.