

## Lesson Planning



### Overview

While some teachers prepare written lesson plans to guide their teaching activities, others do not. Why do teachers need to spend time on documenting their lesson plans? There are several good reasons. One of reasons is that it helps them consider very important elements and questions before the actual instruction, and thus enhance the probability of successful teaching activities.



Many lesson-planning tools have been developed in order to help teachers increase their productivity. The tools appearances are all different and the included elements in the lesson planning tools are similar in some ways and different in other ways. There is no best lesson-planning tool. It all depends on the situation and the users.

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## Objectives

- Given an instructional activity to create a lesson plan, the learner will be able to use a lesson planning tool.
- Given a set of technology integration experiences (which are to be retrieved from the KITE case library), the learner will be able to compare and contrast the experiences by creating brief lesson plans with important elements to consider.
- Given a scenario, the learner will be able to adapt the information from the scenario and past technology integration experiences (both from personal experiences and those retrieved from the KITE case library) in creating a lesson plan for his/her situation.

### Activity 1: Review of Lesson Planning Tools

Read the following information. Examine the lesson planning tools and contribute to the discussion activity.

#### 1. Beliefs on Human Learning and Its Effect on Lesson Planning

People's beliefs on human learning are different and have changed over time. While behaviorists believe that knowledge can be transmitted during instruction, constructivists believe that knowledge is constructed. These different beliefs on human learning have an impact on lesson planning. These following two documents briefly discuss this issue.



- Methodological Difference Between Directed and Constructivist Models (Roblyer, 2002)

This document provides a brief summary on how the methodology of instruction is different because of different perspectives on human learning.

#### Methodological Difference Between Directed and Constructivist Models

	Directed	Constructivist
Teacher roles	Transmitter of knowledge; expert source; director of skill/concept development through structured experiences	Guide and facilitator as students generate their own knowledge; collaborative resource and assistant as students explore topics

## Technology Integration Learning Environment

<b>Student roles</b>	Receive information; demonstrate competence; all students learn same material	Collaborate with other; develop competence; students may learn different material
<b>Curriculum characteristics</b>	Based on skill and knowledge hierarchies; skills taught one after the other in set sequence	Based on projects that foster both higher level and lower level skills concurrently
<b>Learning goals</b>	Stated in terms of mastery learning and behavioral competence in a scope and sequence	Stated in terms of growth from where student began and increased ability to work independently and with others
<b>Types of activities</b>	Lecture, demonstration, discussions, student practice, seatwork, testing	Group projects, hands-on exploration, product development
<b>Assessment strategies</b>	Written tests and development of products matched to objectives ; all tests and products match set criteria; same measures for all students	Performance tests and products such as portfolios; quality measured by rubrics and checklists; measures may differ among students

(Source: Roblyer, M.D. (2002) Integrating Educational Technology into Teaching (3<sup>rd</sup>), p. 54)

- Summary of Characteristics of Two Teaching/Learning Modules (Roblyer, 2002)  
This document provides a brief summary on how the focus of instruction is different due to the different beliefs on how humans learn.

### Summary of Characteristics of Two Teaching/Learning Modules

#### Directed Instructional models Tend to:

1. Focus on teaching sequences of skills that begin with lower level skills and build to higher level skills.
2. Clearly state skill objectives with test items matched to them.
3. Stress more individualized work than group work.
4. Emphasize traditional teaching and assessment methods: lectures, skill worksheets, activities, and tests with specific expected responses.

#### Constructivist Learning Models Tend to:

1. Focus on learning through posing problems, exploring possible answers,

and developing products and presentations.

2. Pursue global goals that specify general abilities such as problem-solving and research skills.
3. Stress more group work than individualized work.
4. Emphasize alternative learning and assessment methods: exploration of open-ended questions and scenarios, doing research and developing products; assessment by student portfolios, performance checklists, and tests with open-ended questions; and descriptive narratives written by teachers.

(Source: Roblyer, M.D. (2002) Integrating Educational Technology into Teaching (3rd), p. 56)

## 2. Lesson Planning Guides

- Lesson planning guide 1: [Planning Your Course: A Decision Guide](#)  
This very detailed decision guide was developed by Dr. Dee Fink of the Instructional Development Program at the University of Oklahoma.
- Lesson planning guide 2: [Ask ERIC Lesson Planning Guide](#)  
This guide is published by the U.S Department of Education and provides step-by-step directions for writing lesson plans.

## 3. Lesson Planning Tools

The following lesson planning tools have similar components such as grade level, subject, objectives, instructional activities, assessment plan, and so on. However, they are also different in many ways. Some lesson planning tools divide instructional activities into sub-components. Other lesson planning tools provide a section for connectivity to the standards. Others take into consideration technology integration for learning. In the case of PLANright, it supports teachers as they share lesson plans and cooperate in building lesson plans. Most tools support personal storage.

- Example 1: [PLANright](#)  
(Free and easy registration is required.)  
PLANright is a free online lesson-planning tool for teachers in Florida. It helps the

<http://www.coe.missouri.edu/~tile2003/teacher/lp.html>

user create lesson plans in personal storage space and align the lessons to the Florida Sunshine State Standards. In addition, the user can share the lesson plans with other teachers and build lesson plans together.

- Example 2: [Lesson Plan Maker](#)

Teach-nology provides a structured lesson-planning tool. The instructional activities are organized from instruction to closure. There is no component for curriculum standards or technology standards.

- Example 3: [NCRTEC Lesson Planner](#)

The North Central Regional Technology in Education Consortium provides a question-based lesson-planning tool.

- Example 4: [Discovery School.com's Lesson Planner](#)

(Free and easy registration is required.)

Discovery School provides an online-based lesson-planning tool that involves three steps. This lesson-planning tool focuses on resources such as books, online-resources, etc.

#### Discussion Topics

When you participate in the group discussion, relate your answers to the readings and your own personal experiences.

- What is the difference between lessons that use technology and learning that is facilitated by the use of technology?
- Does the use of technology guarantee an increase in learning?
- What are the critical factors that must be addressed when determining the appropriate media?

#### Activity 2: Create Lesson Plans Based on KITE Cases

Search through the [KITE case library](#) for cases that are of interest to you. Find the similarities and differences among the cases and demonstrate your learning by building 2 lesson plans based on KITE cases. Think about how you can get ideas from different cases. You can combine cases to get even better ideas. The discussion activity will give you the

<http://www.coe.missouri.edu/~tile2003/teacher/lp.html>

opportunity to present your lesson plans. Explain the similarities and differences among the cases and provide a rationale for your choice by discussing how useful those cases are for your situation. **The sample below will provide you with the format for this assignment.**

Your posting/presentation should include the following:

- Criteria used when finding cases
- 3 lesson plans based on the cases
- Brief summary which answers the following:
  - For each KITE case you used, what components are applicable to the current problem you are solving in your lesson?
  - How does this case facilitate appropriate technology integration?
  - What are the case similarities and differences based on the KITE index terms?

### **Sample Summary**

#### *Overview*

You have chosen to build a lesson plan for students in grade 9. The subject of the class is algebra. You are interested in using a graphing calculator to help your students visualize the results. You hope that if your students use a graphing calculator, it will enhance their understanding of the relationship between graphing and equations.

#### *Lesson Plan Criteria*

- Subject: Math (Algebra)
- Grade: grade 9
- Technology used in Lesson: graphing calculator
- Learning outcome: Students will be able to predict a graphline after experience with using a graphing calculator.
- Assessment: Observation and written exam
- Activities: Using a graphing calculator to represent knowledge and skills for graphing



## Case Review

KITE case: [3151-1](#)

General Information			
Author	N/A		
Title of Lesson	Graphing	Duration	43 minutes
		Place	Classroom
Subject/Unit	Math (Algebra)	Grade	Grade 9-12
Curricular Standard(s)	Not specified but activity directly addresses one or more standards		
Technology Standard(s)	Not specified but activity directly addresses one or more standards		
Objectives and Assessment			
Objective(s)	<ul style="list-style-type: none"> <li>Given a graphing calculator and an equation, the learner will be able to construct a graph.</li> </ul>		
Assessment	<ul style="list-style-type: none"> <li>Observational assessment with a checklist</li> <li>Written examination without using a graphing calculator</li> <li>Written examination given a graphing calculator</li> <li>Homework</li> </ul>		
Preparation			
Materials / Resources	<ul style="list-style-type: none"> <li>Slinky, yard stick, film container, M&amp;M's, paper clip</li> <li>Graphing calculators (Reason for using it: To help students survive in any type of job activity for the future / easy to carry / to visualize the result quickly)</li> <li>Overhead projector</li> </ul>		
Students' Preparation	<p>Students will provide their own calculators.</p> <p>Note: Provide several extra graphing calculators for students who forget to bring their calculators or students who cannot afford them.</p>		
Teacher Preparation	Need some training on technology use (i.e., conferences, night workshops, classes, etc.)		
Activities			
Learners' Activities	<ol style="list-style-type: none"> <li>Construct a graph by hand first, and use a graphing calculator later for double-checking. (The student needs to understand</li> </ol>		

	<p>the relationship and logic between an equation and a graph and a graphing calculator has certain limitations.)</p> <p>2. Measure a distance for linear regression line.                  (Quote from KITE Case: "We have a slinky that is suspended from a yard stick across the back of the chairs. And on the bottom of the slinky is a film container, film canister connected with a paper clip and than what we do is we measure the distance the film container is from the floor. And then what happens is, we put in 3 M&amp;M's, and we measure the distance and then we put in 3 more M&amp;M's and measure the distance, and then we put in 3 more M&amp;M's and measure the distance so it can hold up to 30 M&amp;M's. And then from that, we put that into our lists. Our list one is the number of M&amp;M's we put in the container. List 2 is the distance from the floor. And from that we do a linear regression line. Now these are my Algebra IB students, which are basically freshman students that are struggling with mathematics, or do not have any, or have great math anxiety.")</p>
Teacher Activities	<ul style="list-style-type: none"> <li>• Scaffold students' activities by preparing an overhead projector to guide students' activities.</li> <li>• Give instructions on what to put in the graphing calculator.</li> <li>• Help students who have questions.</li> <li>• Ask questions to check students' status.                         <ul style="list-style-type: none"> <li>○ How can you put a polynomial equation into the graphing calculator?</li> <li>○ Do you know how to find the x-intercepts?</li> <li>○ Do you know how to find the y-intercepts?</li> <li>○ Do you know how to find the relative means and maximums?</li> <li>○ Can you predict a graphline given an equation?</li> </ul> </li> </ul>



KITE case: [7111-1](#)

General Information			
Author	N/A		
Title of Lesson	Graphing	Duration	N/A
		Place	Classroom
Subject/Unit	Math (Calculus)	Grade	Community College
Curricular Standard(s)	N/A		

## Technology Integration Learning Environment

Technology Standard(s)	N/A
<b>Objectives and Assessment</b>	
Objective(s)	<ul style="list-style-type: none"> <li>Given a graphing calculator, the learner will be able to draw a curve with it.</li> </ul>
Assessment	In this situation, the teacher was not able to assess the use of a graphing calculator because not every student could afford the graphing calculator. Possible assessments would include formal test, informal observation and homework assignments.
<b>Preparation</b>	
Materials / Resources	<ul style="list-style-type: none"> <li>Graphing calculators (Reason for using it: to visualize the problem)</li> <li>Since every student cannot afford the tool, try a virtual calculator next time.</li> </ul>
Students' Preparation	Students need to supply graphing calculators on their own.
Teacher Preparation	N/A
<b>Activities</b>	
Learners' Activities	<ul style="list-style-type: none"> <li>Let students use graphing calculator as a visualizing aid.</li> </ul>
Teacher Activities	<ul style="list-style-type: none"> <li>Draw the curve and ask the student draw it with a graphing calculator.</li> </ul>

### *Reflection*

Both cases used a graphing calculator in a math class. However, both cases are also different. Case 3151-1 provides almost an exact match of the outlined lesson plan. From the first case, we can learn what to consider, how to organize the class, and so on. Also, we can see that we would need to prepare a rubric to assess the students' performance. Case 7111-1 is missing several elements. However, we also can gain some ideas from the second case for the situation. If the students do not all have access to a graphing calculator, there is a need to plan for this issue by choosing another option, possibly using a virtual calculator.

**Rubric for Activity 2**

"A" range	Two lesson plans are posted based on KITE cases. The cases are summarized with details about the criteria for choosing the case, the applicability of the case components to the criteria, and information is provided about how this case facilitates appropriate technology integration. KITE case similarities and differences are discussed and a reflection statement is included.
"B" range	Two lesson plans are posted based on KITE cases. The cases are summarized with some details about the criteria for choosing the case, the applicability of the case components to your criteria, and information is provided about how this case facilitates appropriate technology integration. KITE case similarities and differences are discussed.
"C" range	Two lesson plans are posted based on KITE cases. The cases are summarized with little details about the criteria for choosing the case, the applicability of the case components to your criteria, and information is provided about how this case facilitates appropriate technology integration. KITE case similarities and differences are not discussed.
"D" range	Failure to complete assignment.

**Activity 3: Create a Lesson Plan****Teacher Scenario**

As you walk down the hallway to get to your class in River Middle School, you are attracted to the newspaper display on the wall. When you ask who did it, the classroom teacher says that it is the students' work from her class. She assigned the students to research the Internet for historical events. The students worked in small groups to do research and to create a newspaper.



While the students had difficulty in narrowing their searches, the students really enjoyed researching the historical events because one group of students got different information and perspective about the same historical events from other groups. The Internet enabled the students to find interesting information and motivated the students to eagerly engage in making the newspaper. At the end of the class, they were proud of what they did and the teacher wanted to share their work with other students in the school. After hearing about this experience, you are thinking that you might be able to use a similar strategy in your class.

<http://www.coe.missouri.edu/~tile2003/teacher/lp.html>

### Assignment

Search through the [KITE case library](#) for cases that are of interest to you. Choose any grade and subject based on your interest. After comparing and contrasting retrieved cases, design your lesson plan based on your interest by adopting or revising the instructional strategies, assessment strategies, or technologies used in the cases. You may use any lesson planning tools that fit into your situation.



Before you retrieve the KITE cases, prepare an index of your criteria such as grade level, subject, goals (learning outcomes), and assessment plan. Provide a brief, one or two paragraph of summary of each case that you use. You should provide a rationale for your choice of cases.

Describe important elements that are not found in the case and think about how to fill in those elements with your ideas or ideas from other cases, if needed. For instance, if the case does not provide information regarding how a teacher evaluates the students' learning outcome, think about how you will evaluate students' learning outcomes. This can be new ideas or ideas generated from other cases. Remember your ideas should be aligned with the learning goals and instructional activities. By comparing and contrasting cases, you will come up with better ideas for your lesson plan.

When you build your lesson plan, you must provide detailed description for important elements; who the learners are, what the learning goals are, what the instructional activities are, what technologies are used, and how the learners are evaluated.

When you present your lesson plan, it should include:

- The criteria (or index) for your search
- Brief summary of the cases you used
- Rationale for your choices of cases
- Lesson plan based on the retrieved cases and the scenario

**Rubric for Activity 3**

"A" range	Lesson plan includes all of the important elements. The objectives, assessments, class activities, and use of technology are well aligned and appropriate to the target audience. Lesson plan based on retrieved KITE case shows improvement by incorporating new ideas from other cases.
"B" range	Lesson plan includes almost all of the important elements. The objectives, assessments, class activities, the use of technology are aligned and appropriate to the target audience. Lesson plan based on retrieved KITE case does show some improvement by incorporating new ideas from other cases.
"C" range	Lesson plan includes some important elements. The objectives, assessments, class activities, the use of technology show little connection and are not appropriate to the target audience. Lesson plan based on retrieved KITE case does not show improvement by incorporating new ideas from other cases.
"D" range	Failure to complete assignment.