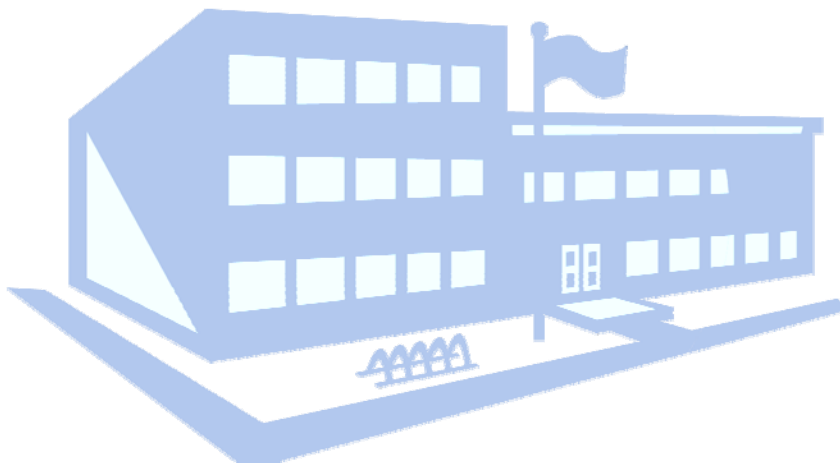




# Choosing an Online Lesson Planner



An **OnHand Schools** **WHITE PAPER**

by Dr. Stefan Biancaniello

## Contents

INTRODUCTION .....	2
OVERVIEW.....	3
CREATE LESSON PLANS FROM DISTRICT CURRICULUM .....	3
CALENDAR VIEW AND REPORTING .....	6
ADAPT TO THE DISTRICT METHODOLOGY .....	7
24/7 WEB-BASED ACCESS .....	7
STANDARDS BASED PLANNING .....	7
EASY WAY TO ADD DIGITAL RESOURCES AND SHARE WITH PEERS .	7
SUMMARY AND EVALUATION RUBRIC.	8

## Introduction

Many factors influence how well students are prepared to become contributing members of society - a safe school environment with strong district leadership and a supportive community are all important. But it has been proven, again and again, that the single most important factor driving the success of a student is the teacher.

Great teaching in the right environment can result in all students reaching their highest potential. Great teaching can even produce successful students in severely diminished environments.

Supporting teachers should be the primary goal of all school districts. A district should provide great teachers with great tools and allow them to work their craft. If this is done students will thrive. Two of the most critical tools that a district can provide its teachers are 1) access to data on students and 2) a rigorous and relevant curriculum.

In today's increasingly global world K-12 teachers are experiencing greater expectations than ever before. These expectations are growing at the same time as budgets decrease and class sizes increase resulting in the time constraints teachers' face becoming critical limiters of student success.

Teachers are looking at any and all ways to shave time from their administrative burdens and return instructional minutes back to classrooms and students.

Unfortunately, one of the most powerful tools in a teacher's arsenal, the lesson plan, is being affected in a negative manner because of this alarming trend.

Research proves that the best way to get all students career and college ready is to provide teachers with tools that support great teaching

and a modern lesson planning tool is arguably the most critical of these tools.

This paper examines the features that must be provided by a modern web-based online lesson planning tool that will assist teachers with their individualized instruction and not steal teacher time merely to support administrative requirements.

## Overview

The first question that must be answered is: “Why write lesson plans at all”? The only good answer is: “To create a blueprint for a teacher”.

Unfortunately in most school districts today the lesson plan has become yet one more work item that a teacher must do to satisfy some imagined administrative need.

Teachers invest precious time writing lesson plans that are submitted to their principal who in turn has no time to review the plan, certainly no time to provide critical feedback. The plan is not written by the teacher for the teacher.

Using the technology available today a better model is possible. Teachers should *never* write a lesson plan and they should *never* “submit” their lesson plans to their principal.

What should a teacher do? They should modify and adjust the established district curriculum to reflect how they need to adapt the curriculum for the individual students in each unique classroom.

A lesson planning tool should automatically pre-build each lesson plan from pre-existing district curriculum and then provide an intuitive way for the teacher to adjust the lesson plan based on the needs of each student and each class by using information (data) that should be part of the same on-line software that the lesson planning tool is part of. Once the teacher has adjusted the

lesson plan to reflect the real-world needs of an actual class the lesson plan is immediately available for the principal to review and comment upon. The “*submission*” occurs automatically as soon as the teacher saves the updated plan.

Certainly a modern lesson planning tool must do many things. It must provide a calendar view and powerful reporting while being flexible enough to adapt to the curriculum, lesson planning, and assessment methodology of any district and be online and accessible 24/7. It must also incorporate state and national standards (such as the Common Core and Advanced Placement). It needs to allow a teacher to add links to web-sites and it must provide the ability to incorporate other digital resources, such as video clips, MP3 clips, and educational games, and it must allow the teacher to share lesson plans and resources with peers. It must also address the specific and different needs of elementary, intermediate, and high school teachers. It needs to do all of these things and more. But at the top of the list it must provide an intuitive way to derive a lesson plan from district curriculum.

## Create lesson plans from district curriculum

The lesson planning tool must be tightly integrated with both. It must provide single-click access to student data and district curriculum and enable teachers to derive their lesson plans from the curriculum and then adjust their plans based on the needs of students as seen in the data. It must do this without imposing additional burdens on teachers.

What does a lesson plan that is derived from a district approved curriculum map and modified based on the needs of a particular class look like and how does a lesson planning software tool support its creation? The following is an example of this process:

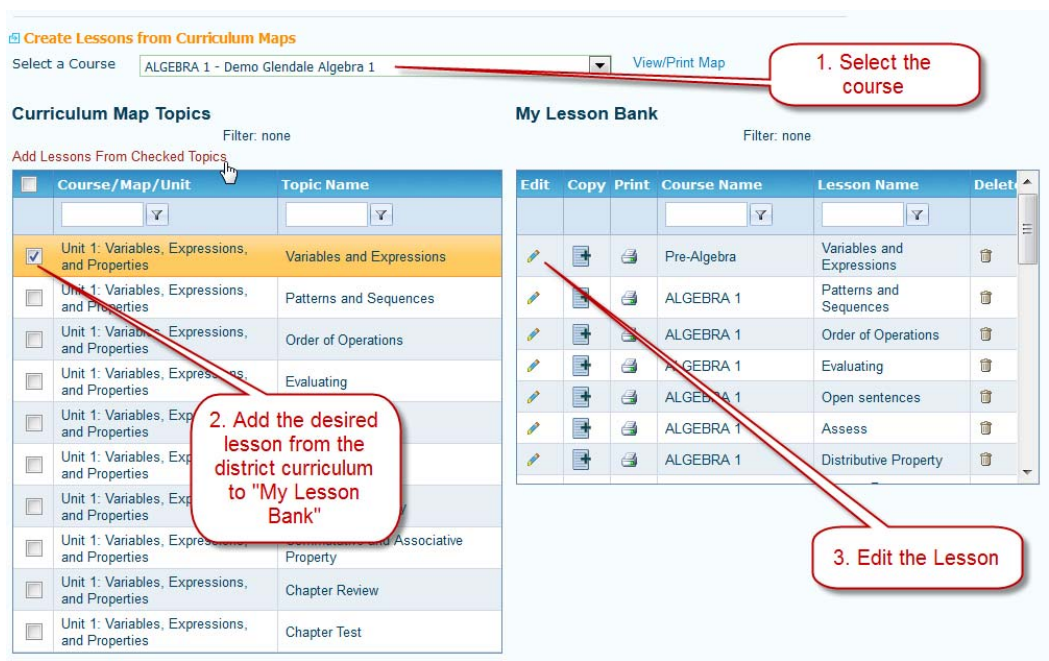
Step One: Create a Lesson Plan from a Curriculum Map

A teacher should have the option of creating a new lesson plan from scratch, copying from an existing plan (for example to derive AP Algebra from Algebra) or creating a new lesson from existing curriculum (the choice shown in this example).



Step Two: Select the Lesson from the curriculum map for the course being taught

The teacher now 1) chooses the course, 2) checks the desired lesson that has been defined in the course map and 3) clicks to edit the lesson.



Step Three: Edit the lesson plan as needed

The image below is a complete lesson plan. It contains all the fields that have been defined by the district with the information specified in the curriculum. The teacher can edit each field, add or remove resources and/or standards or just use the lesson plan exactly as it is. It is important that a lesson planning tool automatically includes all of this information from the curriculum map. The teacher can then adjust as necessary for each specific class.

☆ General

☆ Fields

☆ Standards

☆ Resources

☆ Sharing

Lesson: Variables and Expressions, Unit: Unit 1: Variables, Expressions, and Functions

Lesson Fields (click on the field name to edit)

Simple Edit Mode

Save Simple Edit

Cancel Simple Edit

Lesson Summary and Main Curriculum Tie

In this lesson, students use real-world models to develop an understanding of fractions, decimals, unit rates, proportions, and problem solving.

Materials and Resources for the Lesson

- Making Four Pieces Overhead

Instructional Procedures

Activity 3: That's the Way the Cookie Crumbles!

You bought a baker's dozen (13) of cookies that you want to share equally with your family. How many cookies will each person get?

Ask students to compare this problem with the one posed in the first activity. Give them time to think about the similarities and differences between this problem and the problem posed in Activity 1.

Checking for Understanding/Assessment Plan

- Assess student understanding of naming fractions and fractional equivalents by focusing on how students solve this problem. For example, are students able to recognize that  $\frac{4}{8}$  is equivalent to  $\frac{1}{2}$ ? Do students use their knowledge that  $\frac{6}{8}$  is equal to 6 one-eighths to help them find the cost of  $\frac{6}{8}$  of a cake (i.e., since  $\frac{1}{8}$  of a cake costs \$1.59, then  $\frac{6}{8}$  of a cake costs  $6 \times \$1.59 = \$9.54$ )?

Assignments (Learning Activities)

Chapter 1 in the text - page 22 do the odd problems

Resources

Resource	Description	Subject	Media Type
Comparing Rational Number - Kahn Academy	YouTube Lesson on Rational Numbers	Mathematics	<a href="#">Web Site</a> <a href="#">Remove</a>

Record Count: 1

Lesson Selected Standards

Code	Description	Mastery	Minutes	
<input type="checkbox"/> M8.A.2.1.1 STATE: Pennsylvania State Anchors	Simplify numeric expressions involving integers, using the order of operations. (May include all types of grouping symbols. No combining negatives with exponents [4 to the -3] or compound exponents).	Mastered	45	<a href="#">Remove</a>

## Step Four: Schedule the lesson

The teacher should have a very simple mechanism to schedule a lesson. This image demonstrates how a simple drag-and-drop approach allows a teacher to easily place the lesson on the day and time the lesson will be taught. The teacher “Grabs” the lesson from his or her Lesson Bank on the left side of the screen and drags and drops it on the calendar on the right side.

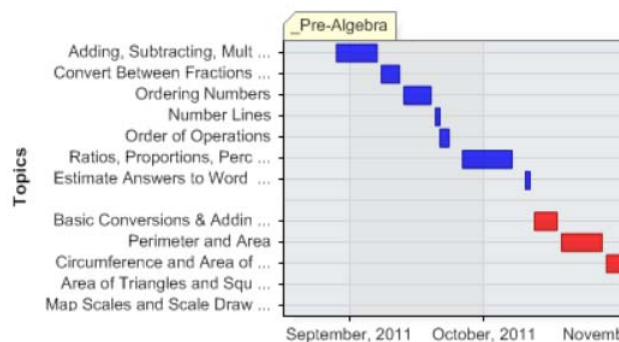
That should be all the work the teacher needs to do to create a lesson plan from a pre-existing district curriculum map and schedule it on the days it will be taught. The teacher’s time can now be invested back into the classroom and the lesson plan can be used as an aid for the teacher and no longer act as a burden and an impediment to success.

The screenshot shows a web-based lesson planning tool. On the left, the 'My Lesson Bank' contains a list of lessons with columns for Course Name, Lesson Name, and Unit. A red arrow points from the 'Probability Intro' lesson in the bank to a slot in the 'Lesson Schedule' calendar on the right. The calendar shows a timeline from Monday, 07/09/2012 to Friday, 07/13/2012, with periods 01 through 06. The 'Probability Intro' lesson is being placed into Period 01 on 7/9/2012. Other lessons like 'Introduction to circles and arcs' and 'Pythagorean Theorem and the Distance Formula' are also visible in the bank and on the calendar.

## Calendar view and reporting

The lesson planning tool needs to provide simple single-click reporting for both the teacher and administrator.

In addition to the calendar view described in the section above that describes how a modern lesson planning tool could schedule a lesson other visual reports such as the scope and sequence report shown in the image on the right must also be easily obtained by just clicking on a button



## Adapt to the district methodology

There are many competing methodologies in K-12 today. Districts are following various approaches to curriculum and lesson planning such as Learning Focused Schools, Understanding by Design, and Diary Mapping. They are also embracing various overarching educational frameworks such as those espoused by Marzano and Danielson.

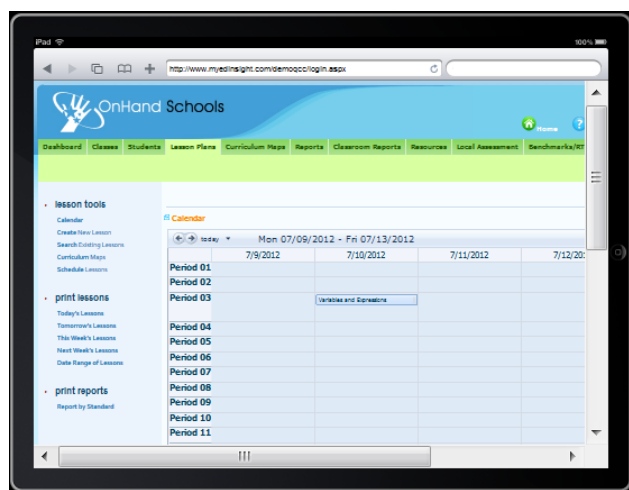
A lesson planning tool needs to provide a flexible structure so it can accommodate the current district approach and also provide a simple way to migrate over to new approaches as the district reviews and updates its strategic comprehensive plan.

## 24/7 web-based access

Any lesson planning tool must be web-based and available 24 hours a day and 7 days a week.

It must be compatible with all current browsers such as Firefox, Internet Explorer and Chrome.

It is also important that it function well on mobile devices, such as the iPad and iPhone and android tablets and smartphones.



## Standards based planning

A teacher should have access to a showing which required state, national, and local standards are covered in a particular course map and be able to adjust for a particular section.

A simple report such as the one shown below would list each standard, anchor, or eligible content is required for the course or grade level and whether or not it is being covered.

### Topic Standards Coverage for selected Maps:

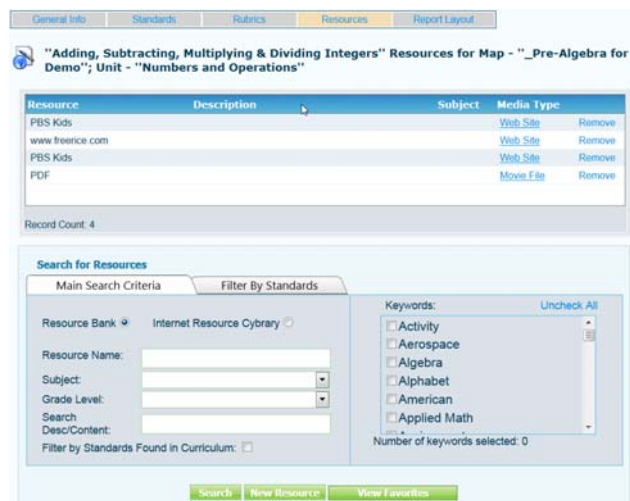
**Selected Maps:** Pre-Algebra for Demo STATE: Pennsylvania State Anchors; Grades - 8; Subjects: Mathematics; Standard SubTopics - Algebraic

#### Filter: Concepts

Standard Code	Description	Covered
M8.D.1.1	Analyze, extend or develop descriptions of patterns or functions.	NO
M8.D.1.1.1	Continue a numeric or algebraic pattern (pattern must show 3 repetitions – may include up to 2 operations, squares and square roots).	NO
M8.D.1.1.2	Find missing elements in numeric or geometric patterns and/or functions (may be given a table or rule – pattern must show 3 repetitions).	NO
M8.D.1.1.3	Determine the rule of a function (given elements in an input-output table, chart or limit to linear functions).	NO
M8.D.2.1	Select and/or use a strategy to simplify an expression, solve an equation or inequality and/or check the solution for accuracy.	YES
M8.D.2.1.1	Solve one- or two-step equations and inequalities (should not include absolute values – one variable only).	YES
M8.D.2.1.2	Use substitution to check the accuracy of a given value for an equation or inequality (simple inequalities with one variable).	YES
M8.D.2.1.3	Determine the value of an algebraic expression by simplifying and/or substituting a value for the variable.	NO
M8.D.2.2	Create and/or interpret expressions, equations or inequalities that model problem situations.	NO
M8.D.2.2.1	Match a written situation to its numeric and/or algebraic expression, equation or inequality (up to two variables in equations or expressions – one variable with inequalities).	NO
M8.D.2.2.2	Write and solve an equation for a given problem situation (one variable only).	NO
M8.D.4.1	Represent relationships with tables or graphs on the coordinate plane.	YES
M8.D.4.1.1	Graph a linear function based on an x/y table (integers only).	YES

## Easy way to add digital resources and share with peers

Teachers must be able to add resources, tag them with keywords and standards and share with their peers.



## Summary and Evaluation Rubric

Districts invest thousands of professional hours and hundreds of thousands of dollars `building and constantly revising curriculum. A rigorous and relevant curriculum is one of the bedrock pillars of a 21<sup>st</sup> century education.

Lesson planners should first and foremost allow teachers to derive lesson plans from the official district curriculum. If a tool does not provide this for teachers it should not be considered. For lesson planning tools that do derive lesson plans from curriculum maps the following rubric can be used to score and rank them.

<b>Criteria</b>	<b>Does Not Meet Requirement</b> <b>0</b>	<b>Partially Meets Requirement</b> <b>1</b>	<b>Fully Compliant</b> <b>3</b>	<b>Score</b>
Lesson plans can be easily derived from course maps	Creating a lesson plan requires extensive keyboard and mouse usage	Creating a lesson plan requires a small amount of interaction with the keyboard and mouse	Lesson plans can be built with a few clicks of the mouse and require no or minimal keyboard interaction	
Training is minimal	Interface is complicated and difficult to use and/or each interaction with the lesson planner requires re-training	Interface is cluttered but usable and while initial training is time consuming no ongoing training is necessary	A short demonstration is all that is required to become fully proficient	
100% web-based	Not web-based	Critical components are web-based	All components are web-based	
Mobile compatible	Does not work on mobile devices	Limited functions available for some but not all mobile devices	All functions work on all common mobile devices	
Calendar based	No support for calendars	Limited support	Fully supports drag-and-drop and range scheduling and reporting	
Complete set of reports	No reports	Includes critical reports but provides no extensibility	Complete reporting solution including ability for user to create new reports	
Standards based	Standards not included	Standards included but user updates necessary	All standards are included and automatic updates are provided	
Can include digital resources	No ability to add additional resources	Support provided for limited resources	All standard resource types are supported	
Share with peers	No sharing provided	Provides limited ability to distribute lesson plans	Allows lesson plans to be shared with other teachers within the district and with other districts	

Adapts to district methodology	Inflexible	Provides ability to make some adjustments such as changes to the interface but does not adapt to district approach	Fully configurable with support for UBD, Diary Mapping and other methodologies and able to easily switch between approaches	
<b>Total Score</b>				