

# Producing Online Quizzes Efficiently with Google Apps

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## ABSTRACT

Technology allows teachers to automate some monotonous administrative tasks such as marking and grading quizzes, etc., freeing up time for the teacher to do more interesting and effective work. However, setting up these quizzes online can be tedious and time-consuming. This paper, which follows from a presentation for Yokohama JALT Tech Myshare delivered on January 22, 2017 (<https://goo.gl/tUe5MV>), describes an efficient way of producing online quizzes from textbooks using a range of Google applications and add-ons.

*Key words:* CALL, online quiz, Google Form, Google Sheet, Google Keep, add-ons, form maker, flubaroo

## INTRODUCTION

Since as far back as the 1960s there has been a growing tendency to incorporate more digital technology into the classroom (Bax, 2003 p.22). Even so, educators should remain skeptical of the application of technology for technology's sake. This notwithstanding, some technological applications for the classroom have undeniable advantages over their more traditional counterparts. Online quizzes, for example, can be marked and graded and students can be provided with feedback automatically. Online solutions release the digitally competent teacher from having to perform the repetitive task of marking quizzes and collating scores, freeing up time for more valuable and interesting higher-level activities.

On the other hand, creating an online quiz requires time and attention. Unless the resulting quiz will be reused many times, it may seem that there is no productivity advantage over traditional paper-based quizzes. In this paper I will address this problem by describing some Google applications and an overview of how to use them to create and administer online quizzes efficiently. The appendix contains step-by-step instructions of the entire process from start to finish.

## GOOGLE FORMS

Google Forms (<https://goo.gl/kpCtQI>) is an online application from Google which is part of the suite of Google web-based office software. Google Forms allows users to conduct surveys by collecting information from respondents via an online form. The respondent's data

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can be collected in a Google Sheet document, which is a web-based spreadsheet, also part of the suite of Google applications. I will refer to the Google Sheet which contains the form respondents data as the *response sheet*.

Google Forms, although initially designed to conduct surveys, may be used to create quizzes. A number of different question types are available, for example multiple-choice (radio buttons), checkboxes and drop-down lists, long and short-form text boxes, etc. It is important to keep in mind that one of the questions must identify the respondent / quiz taker.

## GRADING QUIZZES

This section will discuss two main tools that are available for grading quizzes and providing feedback: the quiz function within Google forms (<https://goo.gl/xFc3L4>) and the Google Sheets add-on called Flubaroo (<http://www.flubaroo.com/>). Both approaches are similar in some respects. Correct answers can be specified for questions, points can be assigned, and the system automatically calculates the score for the quiz and allows you to send scores and other feedback to quiz-takers via email.

There are, however, noteworthy differences between using the quiz function within Google Forms and Flubaroo.<sup>2</sup> One major difference is that the in-built quiz function operates within Google Forms whereas Flubaroo is an add-on to Google Sheets in which the quiz administrator creates an answer-key to mark the quiz in the response sheet. Another key difference is that in Google Forms, the quiz autograde function is limited to *multiple-choice* or *checkbox* or *drop-down* questions (i.e. selecting an answer from a number of options). Flubaroo, on the other hand, allows you to grade alternate types of questions, such as those with text-box input. It also allows for grading by hand, partial credit and alternate correct answers. In summary, if you want to create a quiz of multiple-choice type questions only, you may want to use the built-in quiz function in Google Forms, as it can be easier. For other types of questions, Flubaroo is perhaps the best solution currently available.

## CREATING QUIZZES WITH GOOGLE SHEETS ADD-ONS

The standard way of producing a quiz with a form is to type directly into the form, add a new question, select the type of question, write the question, and answer options, etc. The process can involve frequent switching between typing and clicking which makes creating a form somewhat inefficient. However, two Google Sheets add-ons can streamline this process.

*Form Maker* (<https://goo.gl/cT5pse>) and *formCreator* (<https://goo.gl/mQQqDn>) both enable the creation of a Google Form from a Google Sheet. Running either of these add-ons creates a new page which includes fields (column headers) such as *question type*, *question*, *help text*, *required question*, and *choices* (for multiple-choice or checkbox or drop-down questions). You can set question type (e.g. *multiple-choice* or *text input*), write the question content in these fields, and create a new form with one click. It is much more efficient to create a form in this way, because it involves less switching between pointing and typing, and it is easier to navigate between cells within a sheet using arrow keys. Another factor is that you can *fill down* within a sheet, copying the same content into multiple cells. This allows

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<sup>2</sup> For a comprehensive comparison of Google Forms Quiz Feature vs Flubaroo, see Curts (2016)

you to set multiple questions of the same type, or set the same options for multiple questions. I am more familiar with formCreator, and have only recently become aware of Form Maker in the course of writing this paper. Form Maker appears to be superior, as you can set many more parameters than formCreator including parameters that relate to the whole form (e.g. description, confirmation message, etc.). It also supports question types which are not supported by formCreator such as *scale* and *grid*, as well as validation rules.

## TEXT CAPTURE AND PROCESSING

Efficiency gains can also come through capturing content text using text-to-image technology. Let us assume that you have questions in a textbook that you wish to convert into a quiz. One way to do it is to type the question text directly into one of the aforementioned Google Sheets add-ons. In cases where you have a limited number of questions, this may be the preferred option. For a larger number of questions, it may be preferable to photograph the questions, convert the image into editable text and, after cleaning up the text, adding it to the formCreator or Form Maker-generated sheet and creating a Google Form quiz from there. My app of choice for image capture / image-to-text conversion is Google *Keep* (<https://keep.google.com/>).

Keep is a simple note-taking app from Google, designed for use on mobile phones, which syncs with PCs and other devices via Google Drive. Keep supports photo notes, voice-notes, and checklists, includes reminders and integrates well with other Google applications such as Google's email, calendar and office applications. A complete description of Google Keep is beyond the scope of this paper, suffice it to say that Google Keep has uses beyond those which are outlined here which make it worth getting acquainted with<sup>3</sup>.

In order to capture questions from a textbook, open Google Keep on a smartphone, take a picture of the text, select *grab image-text*, which extracts the text from the image and adds it to the body of the note. Google Keep can also be opened on a laptop / desktop via a browser. It is easier to edit the text on a laptop / desktop and to copy it into a Google Sheet for conversion into a Google Form quiz. Some editing is usually required, for example to remove numbering and / or line breaks in the middle of questions. You need to end up with each question and multiple-choice option on its own separate line to make the text easy to work with within the sheet.

## CONCLUSION

In this paper, I have attempted to describe how to create online quizzes in an efficient manner, using Google applications, add-ons and other online tools. Admittedly, it appears to be quite complex initially, however with practise it is possible to make real gains in productivity and automate the tedious task of marking and grading quizzes. Please see the appendix for a set of explicit instructions on how to create an online quiz from beginning to end.

## REFERENCES

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<sup>3</sup> For more information on the advantages of Google Keep, see Henry (2013)

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*Lifehacker*. Retrieved from <http://lifehacker.com/not-just-another-notes-app-why-you-should-use-google-k-509256637>

## APPENDIX

### Instructions on Creating, Sharing and Grading an Online Quiz

#### Preparation

- Make sure that you have a Google account. If you have a Gmail account, this is equivalent and grants you access to the other Google applications. If you do not have a Google account, you can create one (<https://accounts.google.com>). Note that if you have no need of a new Gmail address, it is possible to create a Google account and link it to a pre-existing email address by selecting *I prefer to use my current email address* (see figure 1)

**Figure 1**  
**Setting up a Google account**

Create your Google Account

One account is all you need  
One free account gets you into everything Google.

Take it all with you  
Switch between devices, and pick up wherever you left off.

Name  
First Last

Choose your username  
@gmail.com  
[I prefer to use my current email address](#)

Create a password  
Confirm your password

Birthday  
Day Month Year

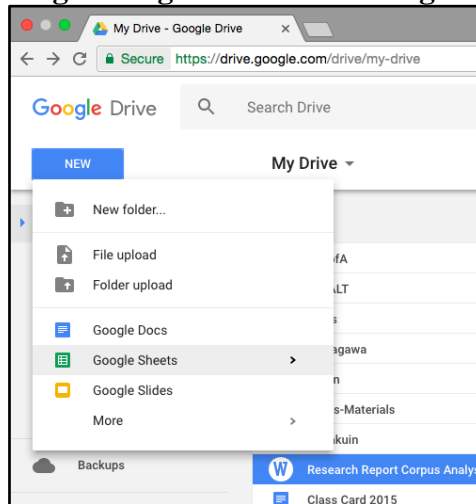
Gender  
I am...

Mobile phone  
+81

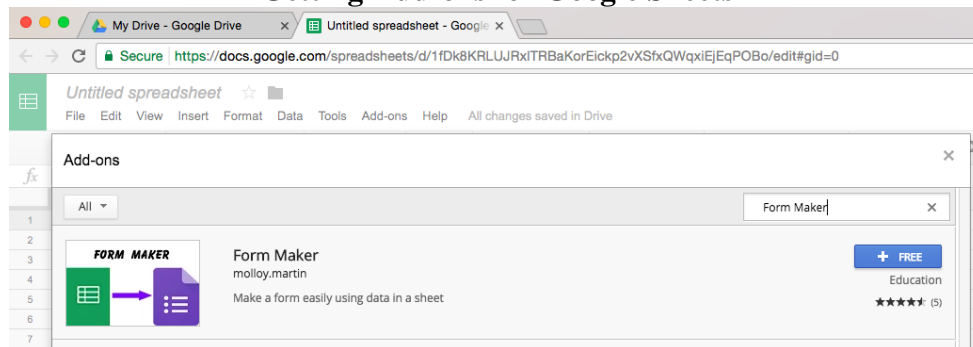
continue=<https://accounts.google.com/ManageAccount&hl=en-GB>

- Go to Google Drive (<https://drive.google.com>) and click the blue *New* button at the top left of the browser window to open a Google Sheet (see figure 2). From the *Add-ons* menu select get add-ons. Search for Form Maker and Flubaroo and add them (see figure 3).
- Download and install Google Keep on your smartphone (<https://goo.gl/iXFP7w>).
- Have the textbook that contains the questions for the online quiz to hand.

**Figure 2**  
**Opening a Google Sheet from Google Drive**



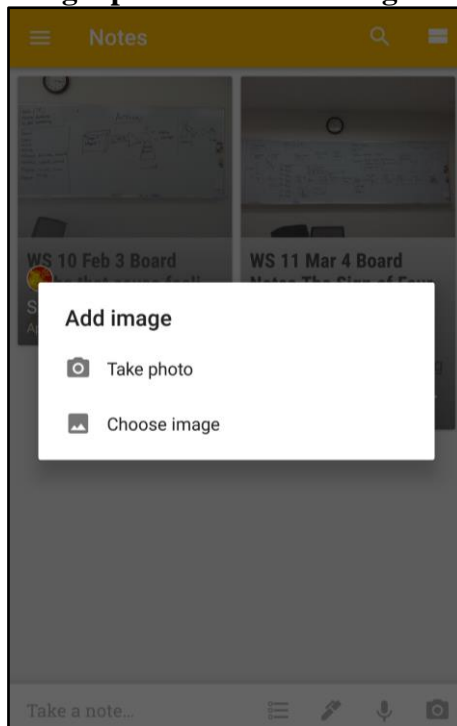
**Figure 3**  
**Getting Add-ons for Google Sheets**



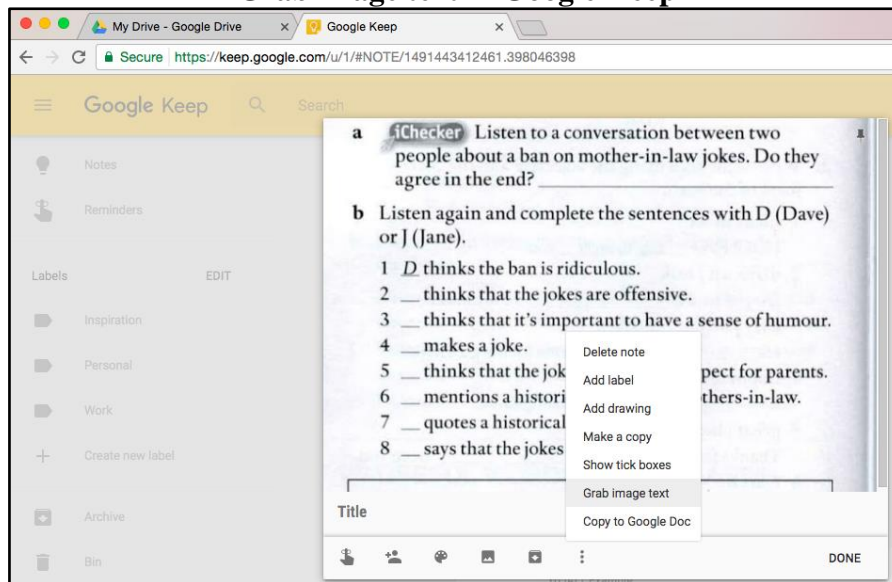
### *Creating the Quiz*

1. Open Google Keep on your smartphone. Click on the camera icon at the bottom right and select *Take photo* from the options presented (see figure 4).
2. Take a photo of the question text. For best image-to-text results, ensure that the image is evenly lit and properly focused.
3. Open Google Keep on a personal computer. Refresh the page until the image of the question text appears. Open the menu (the icon with three vertical dots) and select *Grab image text* (see figure 5).

**Figure 4**  
**Taking a photo of text in Google Keep**

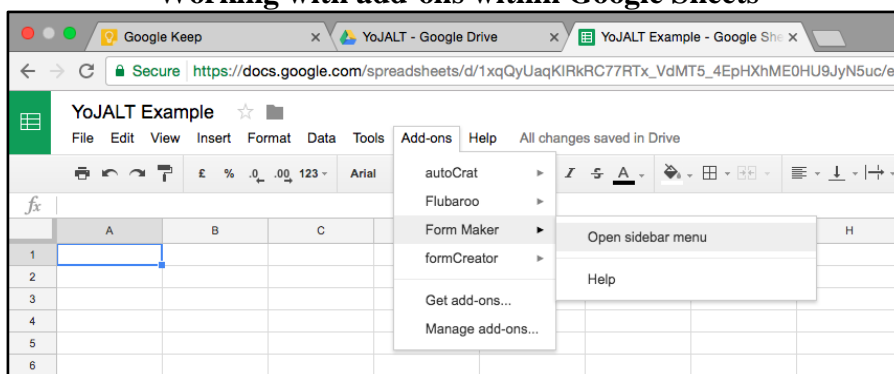


**Figure 5**  
**Grab image text in Google Keep**



4. Make any other edits to the questions that are necessary to have each question (and each question option in the case of multiple-choice questions), on a single, separate line.
5. Open a Google Sheet. From the main menu, select *Add-ons* -> *Form Maker* -> *Open sidebar menu* (see figure 6).

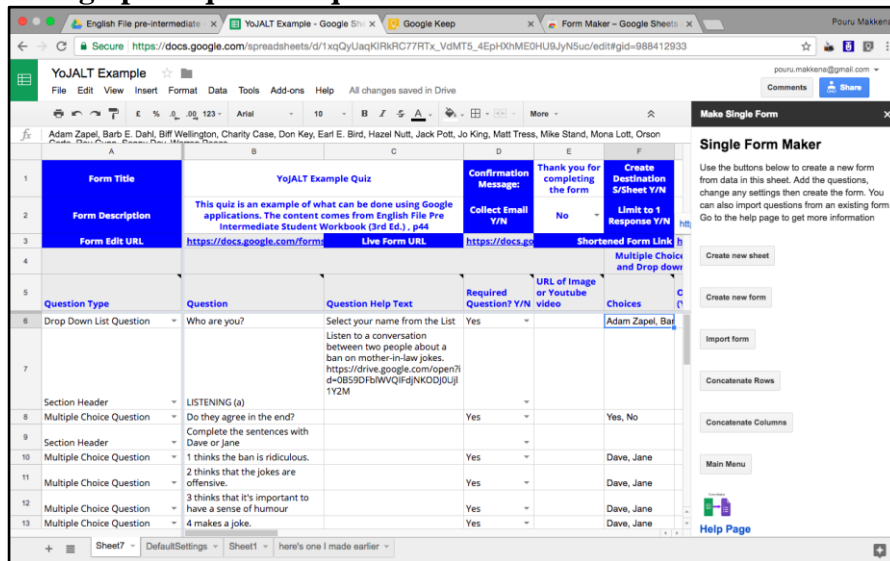
**Figure 6**  
**Working with add-ons within Google Sheets**



6. On the sidebar menu, click on *Create defaults* and inspect the default settings. Adjust the defaults as required, (or not) and click on *Single Form Sheet* (a discussion of *Multiple Forms Sheet* is beyond the scope of the current paper.) A sheet will be created in which you can set the parameters and input the content for the quiz form (see <https://goo.gl/w7CsL4> for more details).
7. Set the *Form Title* and *Form Description*. Copy and paste the question text (see steps 1-5) into the *Question* column. Set the *Question Type* for each question, *Options* for

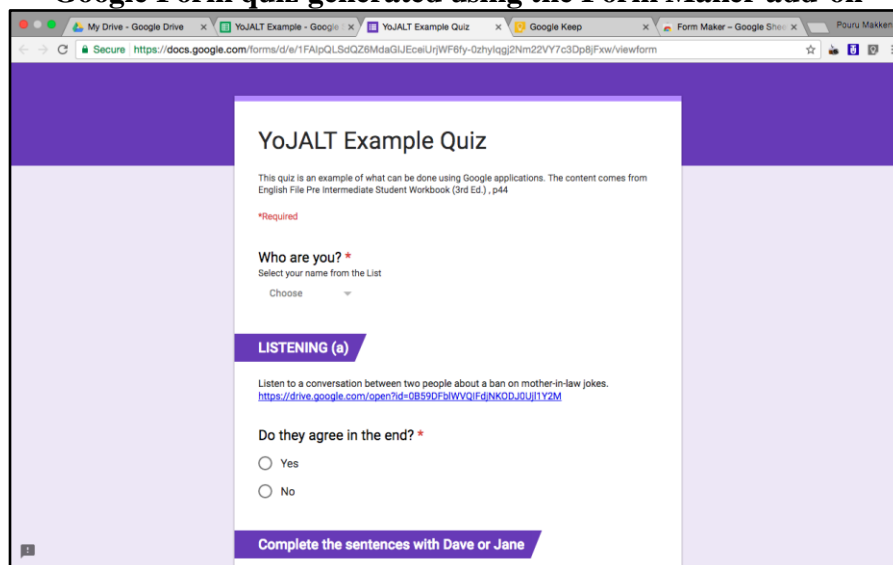
multiple-choice, drop down list or checkbox questions and any other parameters (see figure 7).

**Figure 7**  
**Setting up the quiz and questions in the Form Maker-created sheet**



- When you have prepared all of the questions in the sheet, click on *Create new form* in the sidebar menu. (If you cannot see the sidebar menu, reopen it by selecting *Add-ons* -> *Form Maker* -> *Open sidebar menu*). The URL of the form / quiz will appear in the *Live Form URL* cell in the sheet (see figure 8 for the quiz).

**Figure 8**  
**Google Form quiz generated using the Form Maker add-on**





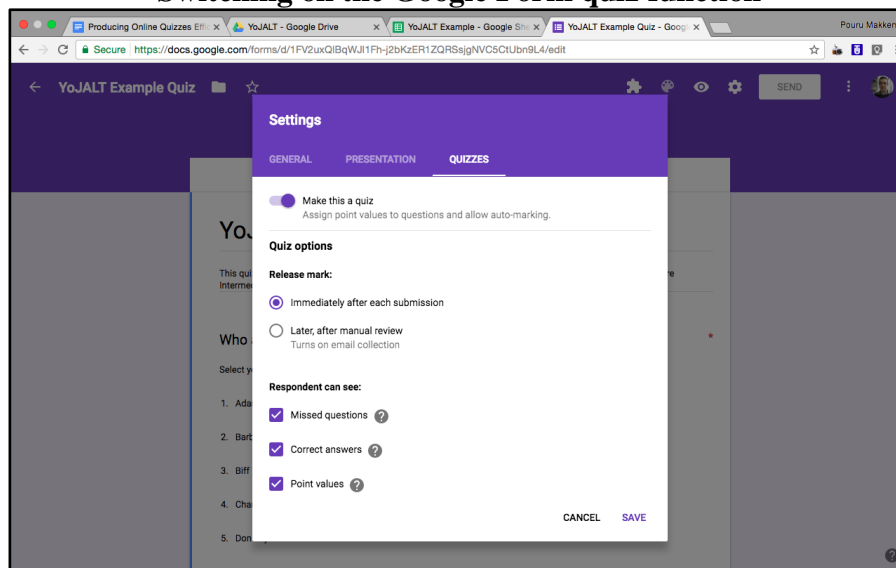
### ***Making the Quiz Accessible***

1. Create a QR code (see <http://www.qr-code-generator.com/>) by copying and pasting the *Live Form URL* into the text-box and clicking the *Create QR code* button. The resulting .png graphic file can be displayed on a projector or printed for students to access using a qr code reader on their cell-phones.
2. The *Live Form URL* can also be emailed to the students, or alternatively there is an option to share the form via email address within the form itself. If you use Gmail, this process can be streamlined by creating a group within Google Contacts (<https://contacts.google.com/>), so that you only have to enter the name of the group and not the individual email addresses.

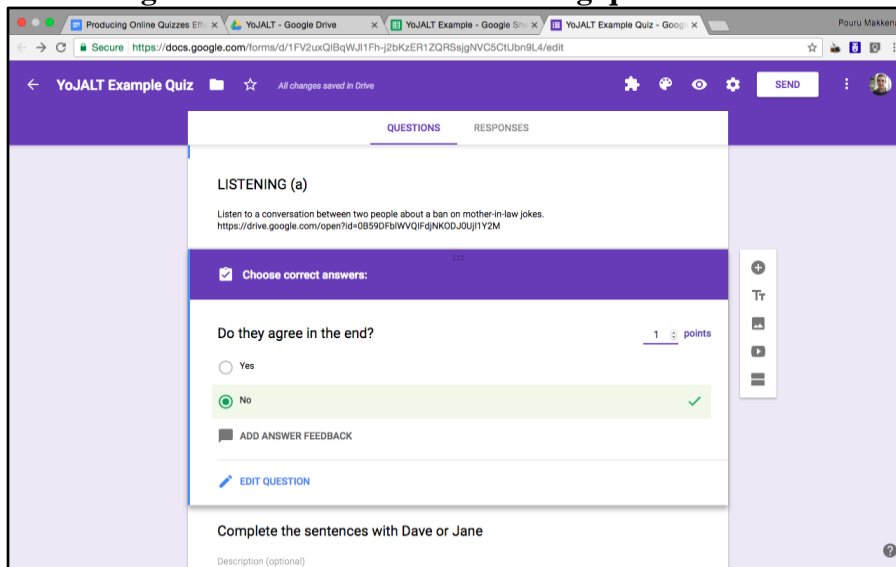
### ***Grading the Quiz***

1. If you only use closed question types (multiple-choice, checkboxes and drop-down lists), then you can open up the form via the live form url and set the quiz function by clicking on the settings gear icon on the top-right of the form. Select the quiz tab, toggle the slider and set other options. (see figure 9). Then set the correct answer for each question, and (optional) add answer feedback (see figure 10).

**Figure 9**  
**Switching on the Google Form quiz function**



**Figure 10**  
**Setting the correct answers and adding question feedback.**



2. Alternatively, use the Flubaroo add-on. Open the *response sheet* (you can find a link in the *Destination Spreadsheet URL* cell in the Form maker sheet). From the main menu, select *Add-ons* -> *Flubaroo* -> *Enable Flubaroo on this Sheet* (see figure 5) From here, follow the instructions at the Flubaroo website: (see <http://www.flubaroo.com/flubaroo-user-guide/#step2>)