

Improvements to the Moodle Cloze and GIFT Code Generator

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The Moodle Cloze and GIFT Code Generator, an Excel-based tool released in 2017, allows users to quickly generate lines of code ready to be imported into Moodle, streamlining the often-laborious Moodle question creation process. This generator has been updated to Version 3.1, which includes several new features. First, the interface has been overhauled and input screens have been expanded from 20 questions to 50, allowing for the creation of longer tests. Second, partial credit now can be awarded to incorrect answers. Third, users can create a feedback preset index, where predetermined comments can be recalled via preset for any answer. Finally, the generator now allows for customized question titles and categorization of questions within the question bank, improving question organization within Moodle. This paper demonstrates these new features of the generator, reviews the process from question input to readying the quiz in Moodle, and discusses future planned upgrades.

ムードルクローズコードと GIFT コードジェネレーターの改良版

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2017年にリリースされたエクセルを用いたムードルクローズコードと GIFT コードジェネレーターは、ユーザーに対し、しばしば労力を要するムードルの問題作成過程を簡素化し、ムードルへ即インポートできる形式にまで作成することを可能にした。このジェネレーターはいくつかの新しい機能を加えたバージョン 3.1へと改良された。第一に、インターフェイスが全面改裝され、インプットスクリーンの問題数を 20 から 50 へと拡大することにより、より長いテストの作成を可能とした。第二に、不正解の回答に対する部分点の付与が可能となった。第三の改良点として、ユーザーは予め設定しておいたフィードバックコメントを各回答に対して付与することができるようになった。最後に、このジェネレーターではムードル内の問題貯蔵庫（クエスションバンク）の問題タイトルとカテゴリーをカスタマイズできるようにし、ムードル内の問題体系を改善した。本論はこのジェネレーターのムードルへのテスト作成過程のレビューに加え、新しい機能を解説したものであるとともに、将来的な改良版への計画を検討したものである。

1. Introduction

To facilitate the creation of Moodle questions within the question bank, particularly for inexperienced users who may shy away from Moodle due to the initial hurdle of transferring a quiz manually from paper to its online counterpart, the Moodle Cloze and GIFT Code Generator was developed by Svien in 2017. By utilizing Excel formulas, the generator can automatically translate plain question and answer text and feedback into Moodle-readable code (Svien, 2017). To date, the generator has been downloaded over 1500 times from the website <https://hbubecc.wixsite.com/jordan/tools>.

Toward improving overall functionality and developing a smoother user experience, the generator has recently been updated to Version 3.1. This paper will outline the core functionality of the generator and the code strings it creates before detailing the updates new to Version 3.1 and discussing future potential improvements.

2. Operating the Generator

This section provides basic details about cloze questions and GIFT format and summarizes the generator's operating procedures.

2.1 Embedded answer (cloze) questions

Embedded answer (cloze) questions are a highly convenient and flexible question format that allows questions, answer choices, partial credit, and feedback to be coded within the body text of a Moodle question. This circumvents the process of entering text manually via other question formats and a lengthy series of mouse clicks and input boxes (Moodle.org, 2019^A). Cloze code can be used for a multitude of question types such as multiple choice, short answer, matching, and in-line drop down questions. Furthermore, there is no limit on the number of cloze questions that can be embedded within the body text of a single Moodle question in the question bank. Thus, use of generators to produce cloze code for multiple questions that can subsequently be copied and pasted is very common.

2.2 GIFT Format

GIFT format utilizes the Moodle question bank import process. Question text is coded and saved into a text document, which is then uploaded to Moodle. Unlike cloze questions, each individual question created will be saved as its own Moodle question. In addition to code that specifies questions as multiple choice, short answer, missing word, true or false, or matching type, GIFT code can also designate question titles, categories, feedback, and partial credit (Moodle.org, 2019^B). Like cloze code, GIFT code generators are often used to generate lines of code that are pasted

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into a text document and imported to Moodle. This circumvents the laborious process of creating each question via the Moodle question bank, making Moodle much more user-friendly to inexperienced users and saving considerable man hours.

2.3 Generator interface

The cloze code and the GIFT format generator quiz input screens appear nearly identically. Each is shown in Figures 1 and 2 below.

Figure 1 Cloze Code Generator Interface

Figure 2 GIFT Code Generator Interface

- ① In both generator input screens, users first select the question type from the drop-down menu in the control panel on the left of the interface (yellow box).
- ② Users input question text along with correct and incorrect answers. In the case of in-line replacement (cloze) or missing word (GIFT) questions, the answer word is typed as is into the question text, where it is subsequently removed by the generator.
- ③ To apply feedback or partial credit, or to reveal additional incorrect answer columns, the appropriate button is pressed in the control panel to reveal the hidden columns.
- ④ (*Cloze Only*) Users can automatically add a question number by pressing the appropriate button in the control panel (useful when there are several question lines embedded within one Moodle question).
- ⑤ (*GIFT Only*) Users can provide a set title and category, in addition to specific question instructions, titles, and categories. (For more information on titles and categories, see sections 3.4 and 3.5.)
- ⑥ Once all questions have been entered, the data can be copied manually from the question strings columns. For the GIFT generator, users can also press the appropriate button in the control panel to copy all question strings.
- ⑦ After transferring the data to Moodle, the data is cleared by

pressing the red button at the bottom of the control panel.

For further details about the operation of the generator, see Svien (2017).

2.4 Transferring the data to Moodle

Embedded answer (cloze) data strings are simply pasted within the body text of an embedded answer (cloze) question, as demonstrated in Figure 3 below.

Figure 3 Embedded Answer (Cloze) Question Creation

Once pasted, the user may make any formatting and/or spacing changes to align the test as desired.

GIFT Code strings are pasted into a text document via a text editing tool such as NotePad or TextEdit, as demonstrated in Figure 4 below.

Figure 4 GIFT Code Import Process

If there are special characters, such as Japanese writing, the text file should be saved in UTF-8 format. The file is

subsequently uploaded to Moodle via the question bank import feature, with users selecting “GIFT format” as their file format. Once the import is complete, users will be taken to the question bank to confirm their newly created questions.

3. Features New to Version 3.1

3.1 Interface improvements

To accommodate larger quizzes, both the cloze and GIFT generator interfaces have been reconfigured to accept 50 questions at a time. Furthermore, as shown in Figures 1 and 2, buttons for showing and hiding columns have been moved to a control panel to the left of the input screens, allowing for a cleaner experience by consolidating all the generator toggles and command buttons into a single location. The entire control panel can also be hidden to further streamline the interface.

3.2 Partial credit columns

In both generators, incorrect answers can now be assigned a partial credit value, as demonstrated in Figure 5 below.

Figure 5 Partial Credit Demonstration

By revealing the partial credit columns from the button in the control panel, users can enter a value out of 100 to be awarded for incorrect answers. This value is automatically added to the line of code adjacent to the incorrect answers. In the case of short answer questions, while leaving the partial credit value blank already awards 100% to alternative answers, users can also assign partial credit values to these alternate answers. This could be used to partially mark off points when less desired answers are entered, such as incorrect spellings.

3.3 Feedback Presets

Through showing the feedback columns in either generator’s control panel, users can enter feedback messages for both correct and incorrect answers. To streamline this process, a feedback preset system has been implemented and can be found to the right of the main interface.

Feedback Presets	
Individual Answer Automated Feedback:	Group Incorrect Answer Automated Feedback:
1. Enter comments for each number	1. Enter group feedback comments for each letter.
2. Enter number in appropriate feedback column(s)	2. Enter letter in “Feedback on Wrong Answer 1” to apply that feedback to all wrong answers for that question.
	3. Leave other incorrect answer feedback columns blank.
1	A
2	B
3	C
4	D
5	E
6	F
7	G

Figure 6 Feedback Preset Input Interface

Two types of feedback presets have been programmed: individual answer and group incorrect answer feedback. These feedback messages are linked to numbers or letters as shown in Figure 6 above. Users can enter feedback messages they wish to use repeatedly next to one of these number or letter presets (some examples have been pre-written but can be overwritten as desired). These presets can then be input into the feedback column(s) of the generator to automatically attach the desired message to the appropriate answer. Figure 7 below demonstrates the feedback presets as preprogrammed in Figure 6.

Figure 7 Feedback Preset Demonstration

In the case where one single feedback message is desired for all incorrect answers, to circumvent having to enter identical preset numbers into every incorrect answer feedback column, users can instead use a preset letter from the group incorrect answer feedback section. This letter is input into the “Feedback on Wrong Answer 1” column (demonstrated in question 2 of Figure 7 above), upon which the linked message is automatically attached to each incorrect answer in the question.

3.4 Customizable Question Titles (GIFT)

As of Version 3.1, the question titling system for the GIFT generator has been revamped.

Table 1 Question Title Format Version Comparison

Old Format Question Titles (Version 3.0 and prior)	
Question Title Pieces	Example Question Title
1. Optional Set Title	:::Geography Question 01 (MC):::
2. Question Number	
3. (Question Format)	
New Format Question Titles (Version 3.1)	
Question Title Pieces	Example Question Title
1. Optional Set Title	:::Geography Capital of Canada:::
2. Specific Title	-OR-
-OR-	:::Geography What is the capital of Canada?:::
3. Question Text	

As seen in Table 1 above, previous versions of the generator allowed for a single question set title that attached itself to all questions. This was followed by automated numbering and the format of the question (such as MC for “Multiple Choice”). Once the questions were imported to Moodle, these titles would display within the Question Bank.

From Version 3.1, users can now specify specific titles for each question. Furthermore, the automatic question numbering and question format attachment to the question titles has been scrapped.

Figure 8 GIFT Question Title Input

In Figure 8 above, specific question titles are input into the marked column, in addition to an optional blanket set title located below the control panel. If users do not wish to give a specific question title, the question text itself will be used as the title. This code will appear automatically in the GIFT question strings column. Thus, users now have the freedom to use whatever question naming conventions they are comfortable with that matches the organization of their question bank. Once the questions are imported to Moodle, their titles will display as written as seen in Figure 4 (see section 2.4).

3.5 Category labels (GIFT)

Moodle allows for the categorization of questions into folders and subfolders within the question bank. These categories are normally set up in advance via the “Categories” option within

Moodle’s course administration tab, as shown in Figure 9 below.

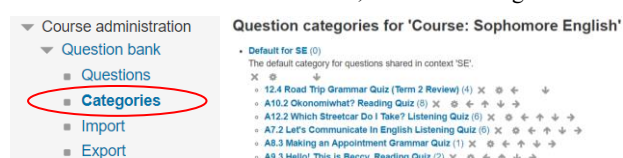


Figure 9 Moodle Question Bank Categories

GIFT code allows the automatic placement of questions into designated categories. Following, the GIFT generator now allows category labels to be designated so they will be uploaded into the appropriate question bank category. Similar to customizable question titles, both blanket category labels and question-specific category labels can be input.

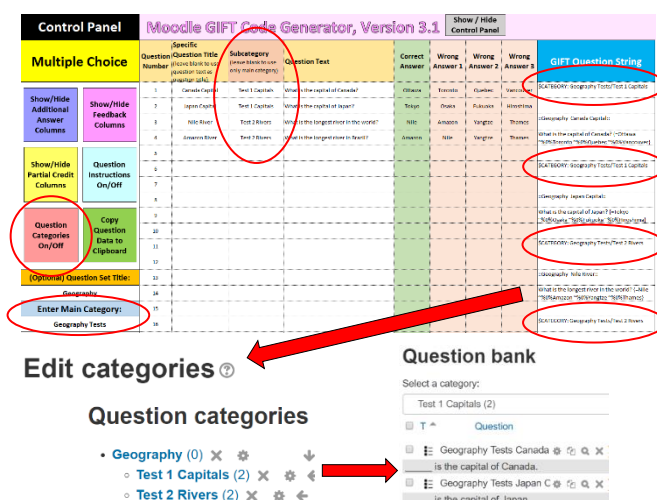


Figure 10 GIFT Question Category Demonstration

As shown in Figure 10 above, users first turn on categories in the GIFT generator by clicking on the appropriate button in the control panel. Users subsequently input the main category located at the bottom of the control panel, followed optionally by any question-specific category in the newly revealed column. The resulting categories will automatically be added to the GIFT question strings column. If users designate a category that does not exist within the question bank, Moodle will automatically create that category post-question upload. Thus, this feature is highly convenient for users who wish to make multiple quizzes simultaneously (especially with the expansion of the question input count as described in section 3.1), as all questions can be categorized into their appropriate subcategories for easy upload to quizzes.

Users may also manually subcategorize questions within the main or question specific category input areas by using a slash [/] between category labels, such as “Geography/Test 1”. If used in the main category input, this can be used to bypass the question specific category column, useful in cases where all uploaded questions are bound for the same question bank category.

4. Future Upgrade Plans

Several features are under consideration for a future version of the generator.

First, adding tags to questions for convenient searching is a useful feature for those with particularly large amounts of questions within the question bank (Moodle.org^C, 2019). Similar to the implementation of question titles and categories, user-defined tags can be added as an additional input column to the GIFT generator.

Second, matching questions, a popular format for quizzes, are currently not supported by the GIFT generator as they would require a considerable format reconfiguration due to the current single-question single-line layout. To this end, a new interface specifically for matching questions is under consideration.

Third, for users who may find it unnatural to input questions and answers horizontally rather than vertically as is commonly found on paper tests, a vertical layout converter is under development. This converter would allow users to input their question text in a format more conducive when copying questions from a paper test to the generator, whereupon the data would be sent in its proper format to the appropriate generator interface.

Finally, as the GIFT generator forms the back end of Svien's (2018) Quizlet Integrated Moodle Code Generator Excel tool, these two tools can be merged into one, allowing users to automatically generate Moodle quizzes based on student Quizlet vocabulary study data (for details see Svien, 2018) that are supported by Version 3.1's functionality enhancements.

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As stated prior, this generator can be downloaded without charge from <http://hbubecc.wixsite.com/jordan/tools>. Feedback, error reporting, or functionality requests are greatly encouraged and appreciated. All such correspondence should be directed to jsvien.becc@gmail.com.

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