



University of Guelph

How to use LimeSurvey for online elections and voting

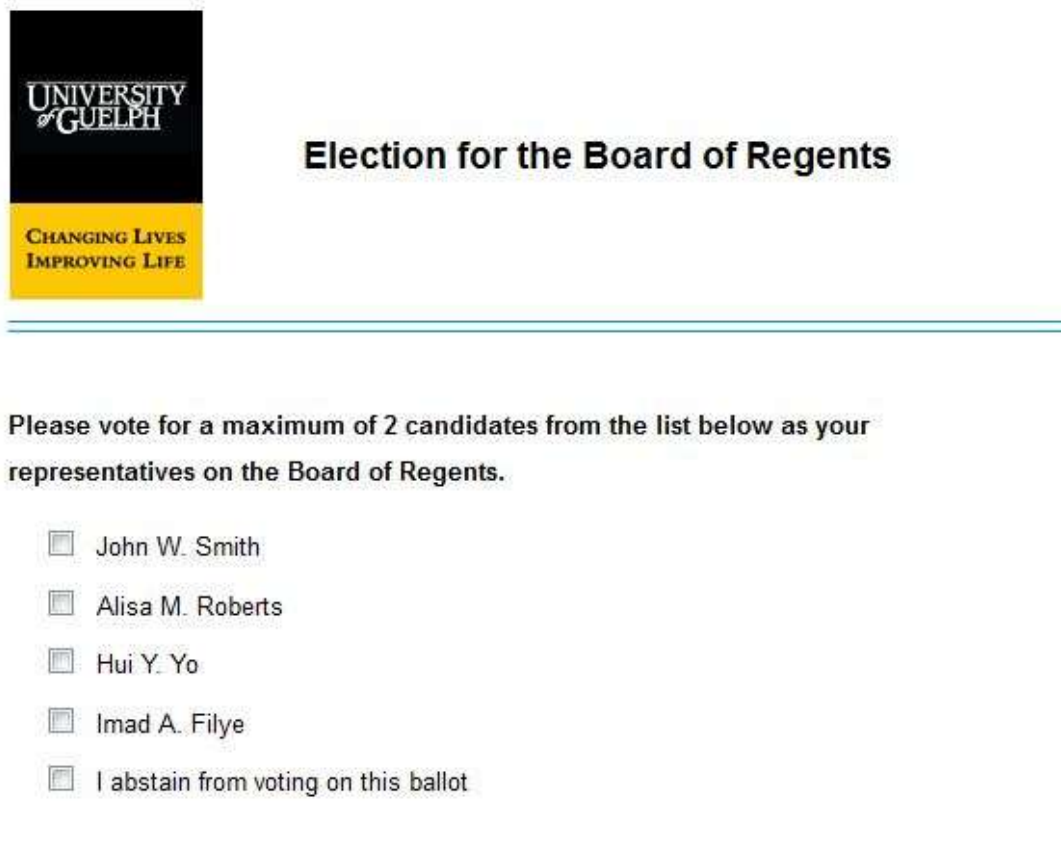
LimeSurvey Drill Down Document

INTRODUCTION

A common application of online surveys is for elections and other voting applications such as referendums. You can use LimeSurvey for these applications by leveraging four concepts:

1. Configuring your LimeSurvey survey's metadata so that your survey:
 - a) is anonymous,
 - b) has a specific starting and closing date and time,
 - c) is configured as "closed access" i.e. only people with a valid "token" can access the survey.
2. Creating a token table for your survey. The token table contains the list of eligible voters for your election, referendum, etc. Only respondents contained in your token table can access your survey when your survey is configured as "closed access". The token table also contains the associated email templates of content you can send to the voters to announce your survey, send reminder and confirmation emails, etc.
3. Making use of LimeSurvey's *multiple choice* question type as illustrated in Figure 1 below.

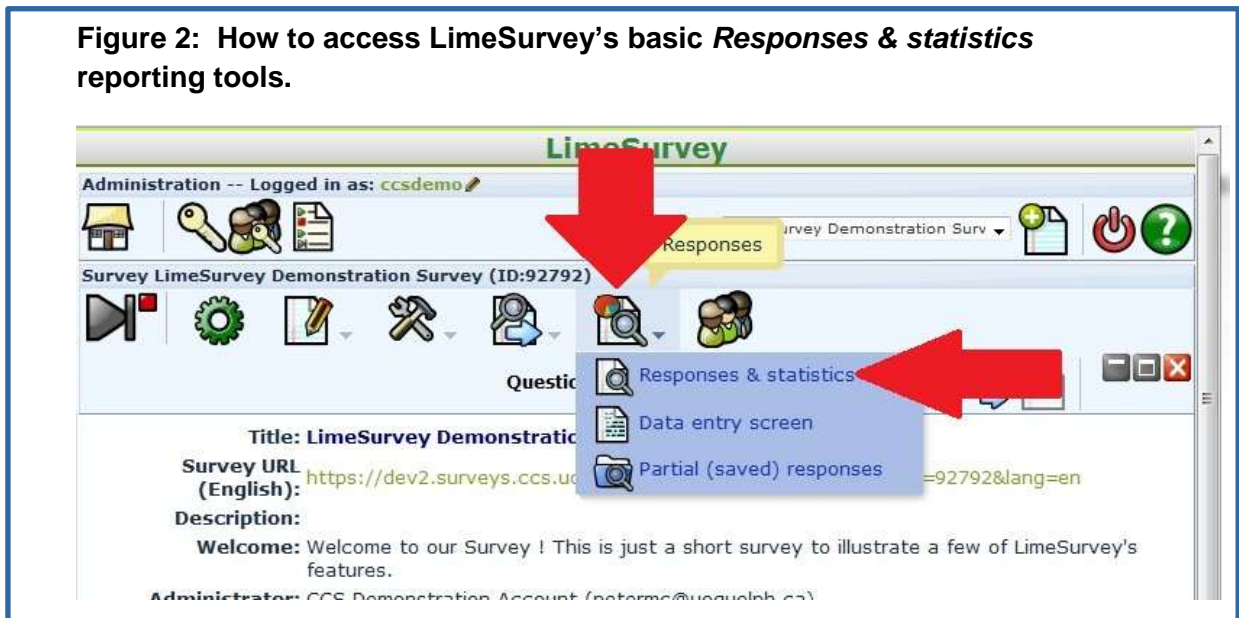
Figure 1: A ballot displayed via LimeSurvey's *multiple choice* question type.



The image shows a screenshot of a LimeSurvey ballot. On the left is the University of Guelph logo, which consists of a black square with 'UNIVERSITY of GUELPH' in white and a yellow square below it with 'CHANGING LIVES IMPROVING LIFE' in black. To the right of the logo, the title 'Election for the Board of Regents' is displayed in bold black text. Below the title, there is a horizontal line. Underneath the line, the instruction 'Please vote for a maximum of 2 candidates from the list below as your representatives on the Board of Regents.' is shown. Below this instruction is a list of five options, each preceded by a small square checkbox:

- John W. Smith
- Alisa M. Roberts
- Hui Y. Yo
- Imad A. Filye
- I abstain from voting on this ballot

4. Making use of LimeSurvey's basic *Responses & statistics* reporting tools to obtain your results once your voting period is over. You access these tools from the *Survey* toolbar as illustrated in Figure 2 below.



Each of the above four concepts is illustrated in this Drill Down document.

Critical Point: It is essential to the integrity of your online election/voting process that your survey be anonymous. If for some reason your survey must not be anonymous you should consult with the University Secretariat before proceeding to ensure you are in compliance with the University of Guelph's policies related to the privacy and protection of personal information. The University Secretariat can be contacted by sending email to: univsec@uoguelph.ca The University Secretariat's web site is available at:

<http://www.uoguelph.ca/secretariat/>

CONCEPT 1: CONFIGURING YOUR SURVEY'S METADATA

Your survey's metadata is accessible by clicking the *Survey properties* icon on the *Survey* toolbar, and then selecting the *General settings* sub-menu. In Figure 3 below, the *Survey properties* icon is pointed to by red arrow 1. The *General settings* choice on the resulting sub-menu is pointed to by red arrow 2.

Figure 3: How to access the *General settings* for your survey.



Step 1:

Figure 4 illustrates the form that appears when you select the *General settings* choice from the sub-menu. (Recall that in LimeSurvey forms appear beneath the lowest toolbar and are used to let you enter specific information – you click the form's associated *Save* button to save your specifications. The form's *Save* button is always at the bottom of the form).

Select the *Presentation & navigation* tab and set the configurations to be as shown in Figure 4:

- The *Format* setting (see red arrow 1) specifies that your survey will be displayed to the respondent one question at a time. This is the recommended format for surveys used for voting applications.

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- b) The *Template* setting (see red arrow 2) controls the basic colour scheme of your survey, as well as the images that appear at the top of each page. In Figure 4 the *Guelph cornerstone* template has been selected. The *Guelph Title Blank* template is often used as well so that you can include your own image(s) at the top of each page.
 - c) Ensure you click the *Save* button at the bottom of the form (see red arrow 3) to save your configuration settings.

Figure 4: How to set the metadata elements of your survey that are specified on the *Presentation & navigation* tab.

The screenshot shows the 'Edit survey settings' interface with the 'Presentation & navigation' tab selected. The settings are as follows:

- Format:** Question by question
- Template:** Guelph_cornerstone
- Template preview:** Shows a preview of the survey titled 'GSLI demonstration survey' with a 'Guelph' logo and a disclaimer.
- Show welcome screen?** Yes
- Navigation delay (seconds):** 0
- Show [<< Prev] button** Yes
- Show question index / allow jumping** No
- Keyboard-less operation** No
- Show progress bar** No
- Participants may print answers?** No
- Public statistics?** No
- Show graphs in public statistics?** No
- Automatically load URL when survey complete?** No
- Show "There are X questions in this survey"** No
- Show group name and/or group description** Hide both
- Show question number and/or code** Hide both
- Show "No answer"** No

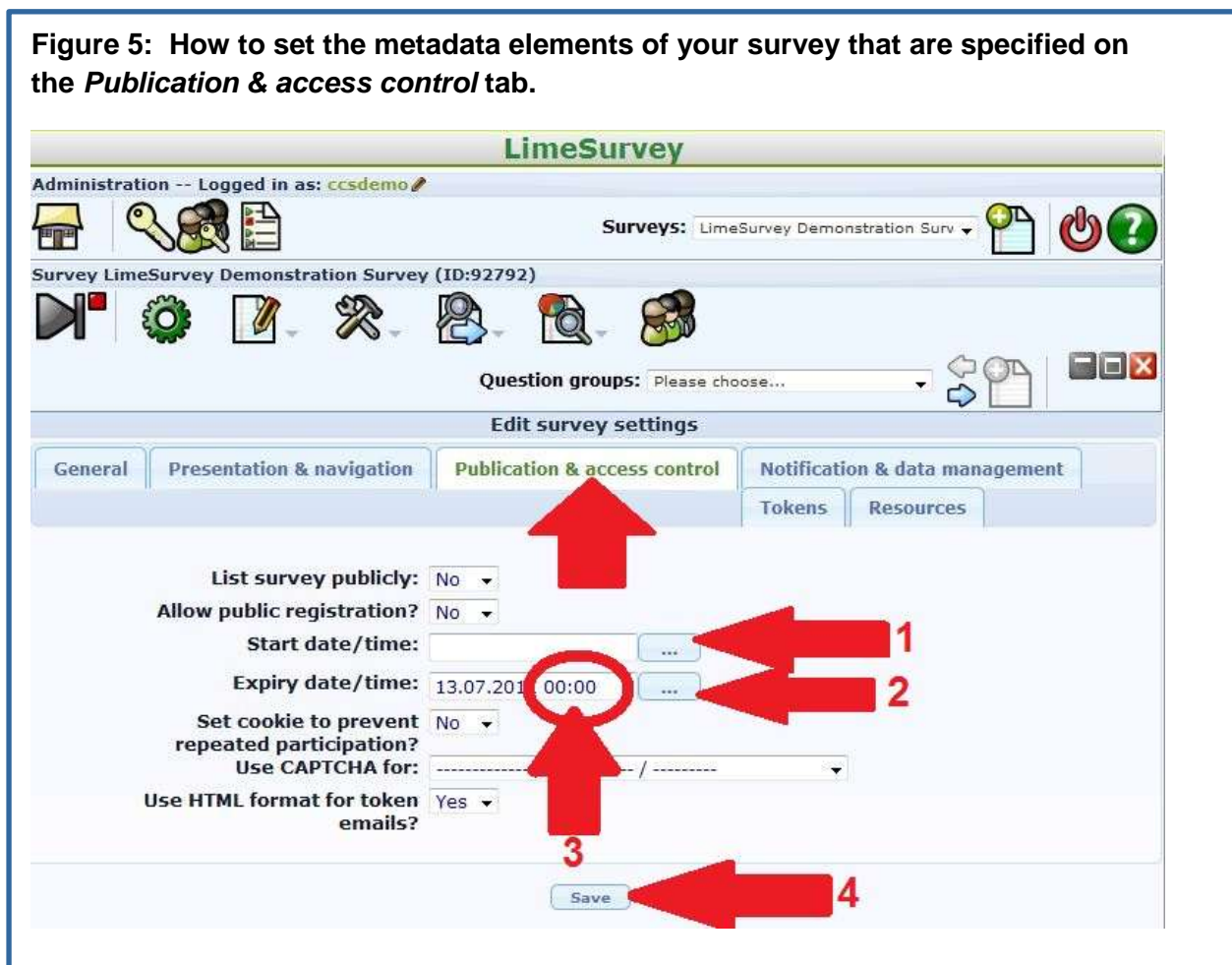
A 'Save' button is located at the bottom of the form.

Step 2:

Re-select the *General settings* sub-menu (see Figure 3 above) and select the *Publication & access control* tab. On the resulting form as illustrated in Figure 5:

- a) Click the buttons pointed to by red arrows 1 and 2 to set the survey's Start and End dates.
- b) Change the value 00:00 for **both** the Start and End fields to the times you wish the survey to start and end – see red arrow 3 in Figure 5 below. Note that the time is 24 hour format i.e. enter 2 p.m. as 14:00
- c) Click the form's Save button to save your configurations. The Save button is pointed to by red arrow 4 in Figure 5.

Figure 5: How to set the metadata elements of your survey that are specified on the *Publication & access control* tab.



Step 3:

Re-select the *General settings* sub-menu a third time (see Figure 3 above) and select the *Notification & data management* tab. On the resulting form as illustrated in Figure 6 below:

- a) The active tab is the *Notification & data management* tab, as pointed to by red arrow 1.
- b) Ensure the survey is set to anonymous – i.e. the *Anonymized responses?* setting is set to “Yes” (see red arrow 2).**
- c) Ensure the *Save IP address?* setting is set to “No” (see red arrow 3).**
- d) Select “Yes” for the *Date stamp?* option (see red arrow 4).
- e) Select “Yes” for the *Save timings?* option (see red arrow 5).
- f) Click the form’s *Save* button as pointed to by red arrow 6 to save your configurations.

Items **(b)** and **(c)** above ensure your survey is fully anonymous. When your survey is *anonymous* there is no way to link a response to a person in the accompanying token table.

Item **(d)** is an optional setting. If set to “Yes” LimeSurvey records the date and time each survey response was submitted. This information will be stored with the response and can be viewed by exporting your responses to Excel, SPSS, etc.

Item **(e)** is an optional setting. If set to “Yes” LimeSurvey records the approximate length of time each question was viewed by the respondent. This information will be stored with the response and can be viewed by exporting your responses to Excel, SPSS, etc. This value is only valid when the survey’s metadata element: “Format” is configured to present the survey question by question (see red arrow 1 in Figure 4 above). Further, the timings can be influenced by various network factors and web browser settings.

Figure 6: How to set the metadata elements of your survey that are specified on the *Notification & data management* tab. Note the two settings to configure your survey to be fully anonymous, pointed to by red arrows 2 and 3. Both these options must be set as shown in this figure for your survey to be fully anonymous.



Step 4:

Your survey's metadata has now been configured for an election / voting application and you can proceed to Concept 2 – creating a token table for your survey to contain your “voters list” information.

CONCEPT 2: CREATING A TOKEN TABLE FOR YOUR SURVEY

The token table corresponds to your “voters list” – the list of people who are eligible to vote in the election/referendum.

Please refer to the LimeSurvey Drill Down Document: *How to work with panels in LimeSurvey* for information on how to create a token table. The document is available on the CCS LimeSurvey web page [here](#).

The URL for the web page is:

<http://www.uoguelph.ca/ccs/software/supported-products/limesurvey>

Tip: include yourself in your survey's token table to enable thorough pre-testing of your survey and its associated email invitation/reminder messages before your election period opens.

After you have created and populated your token table, you can proceed to Concept 3 – making use of LimeSurvey's *multiple choice* question type to present your ballots.

CONCEPT 3: MAKING USE OF LINESURVEY'S *MULTIPLE CHOICE* QUESTION TYPE

Before proceeding with this section, please review the *CCS LimeSurvey Quick Start Guide* if you are not familiar with how to create and edit questions in LimeSurvey. The document is available on the CCS LimeSurvey web page [here](#).

The URL for the web page is:

<http://www.uoguelph.ca/ccs/software/supported-products/limesurvey>

An annotated example of a ballot presented via a LimeSurvey *multiple choice* question type is illustrated in Figure A below. Referring to Figure A:

- a) The text pointed to by red arrow 1 is the *question text*.
- b) The choices in red outline area 2 are the multiple choice question's *sub-questions*. i.e. the sub-questions are used to list the candidates a person can vote for.
- c) The specific *sub-question* pointed to by red arrow 3 is designated as the "exclusive option". When this choice is checked by the respondent, no other choices can be selected until the "exclusive option" choice is de-selected. The "exclusive option" choice is often used to allow voters to indicate they wish to abstain from voting on a particular ballot.
- d) The number of selections the respondent can choose from the list (see red arrow 4) can be enforced by setting the *maximum answers* option for the question. If a respondent attempts to select more than the maximum number of choices you have specified, a warning message is displayed and the selection exceeding the maximum is not allowed. Figure A(i) below illustrates the warning message that is presented to the respondent. In this example the warning message was triggered because the respondent tried to make a 3rd selection when only 2 are permitted.

Figure A: A ballot presented via the LimeSurvey multiple choice question type

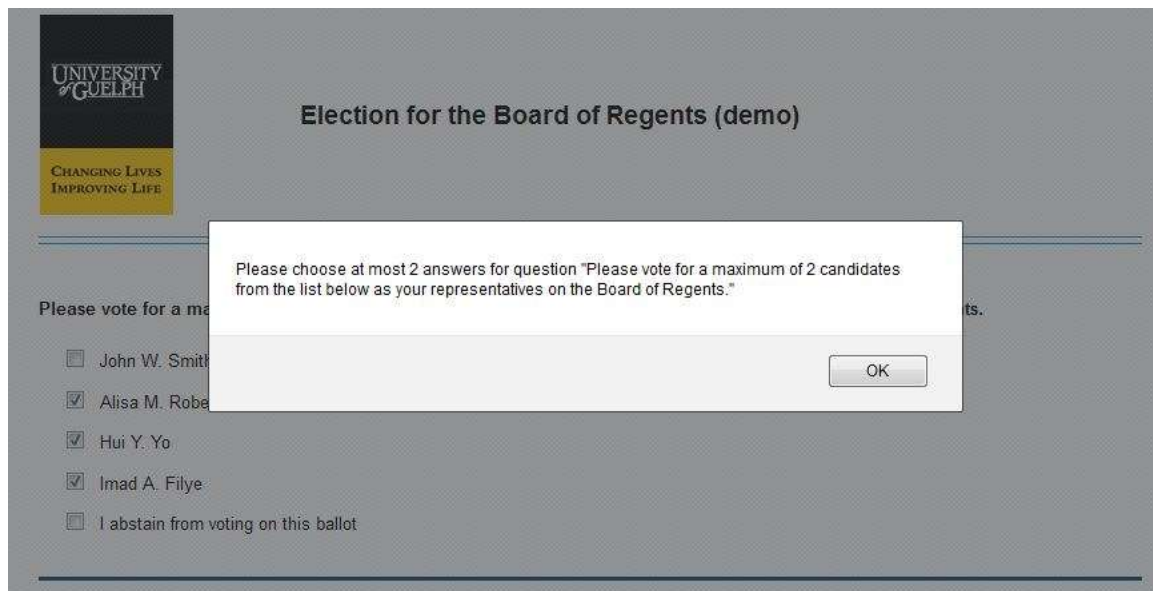
UNIVERSITY OF GUELPH
CHANGING LIVES
IMPROVING LIFE

Election for the Board of Regents

Please vote for a maximum of 2 candidates from the list below as your representatives on the Board of Regents.

- John W. Smith
- Alisa M. Roberts
- Hui Y. Yo
- Imad A. Filye
- I abstain from voting on this ballot

Figure A(i): The warning message displayed when a respondent tries to make a selection that exceeds the maximum number of choices permitted. When the respondent clicks the *OK* button the choice is automatically unchecked.



You can also use LimeSurvey's *list* question type to present a "ballot" when the candidate is only allowed to make one choice from the list of candidates. However if your survey includes questions allowing one choice, and other questions allowing multiple choices, then LimeSurvey's *multiple choice* question type is recommended for all the "ballots" to present your respondent with a consistent experience.

To summarize the advantages of the *multiple choice* question type:

- The multiple choice question's *sub-questions* correspond to the candidates a voter may choose from.
- You can control whether the voter can make a maximum of 1, 2, etc. choices from the list of sub-questions.
- You may have a sub-question similar in wording to "I abstain from voting on this ballot" which the respondent can choose to convey that they do not

- wish to vote on the ballot. This sub-question is designated as the “exclusive option”. When checked, the voter cannot make any other selection until this choice is unchecked.
- You can specify that the order of the sub-questions be randomized each time the question is displayed. Such randomization removes any bias that may be introduced for or against candidates due to their position in the list.

To create a ballot (i.e. a question in your survey) via the LimeSurvey *multiple choice* question type:

Step 1:

Referring to Figure 7 below: after you have selected the *multiple choice* question type for your question, enter the question text, help text, etc. in the usual manner, then click the *Show advanced settings* link (see red arrow 1 in Figure 7) to further configure the question. When you have finished configuring your question ensure you click the *Save* button (see red arrow 2 in Figure 7) to save your question.

Tip: the editor you use to enter question text, help text, sub-questions, etc. can be toggled between its condensed and its expanded mode by clicking the icon pointed to by red arrow 3 in Figure 7. In the editor’s expanded mode there are more tools available for formatting your text, inserting images, etc. In Figure 7 the editor is shown in its condensed mode. In Figure 7A the editor is shown in its expanded mode. When the editor is in its expanded mode it occupies the full page of your web browser. Click the icon pointed to by the red arrow in Figure 7A to return to the editor’s condensed mode display.

Figure 7: Configuring the *multiple choice* question type to use it as a ballot – part 1.

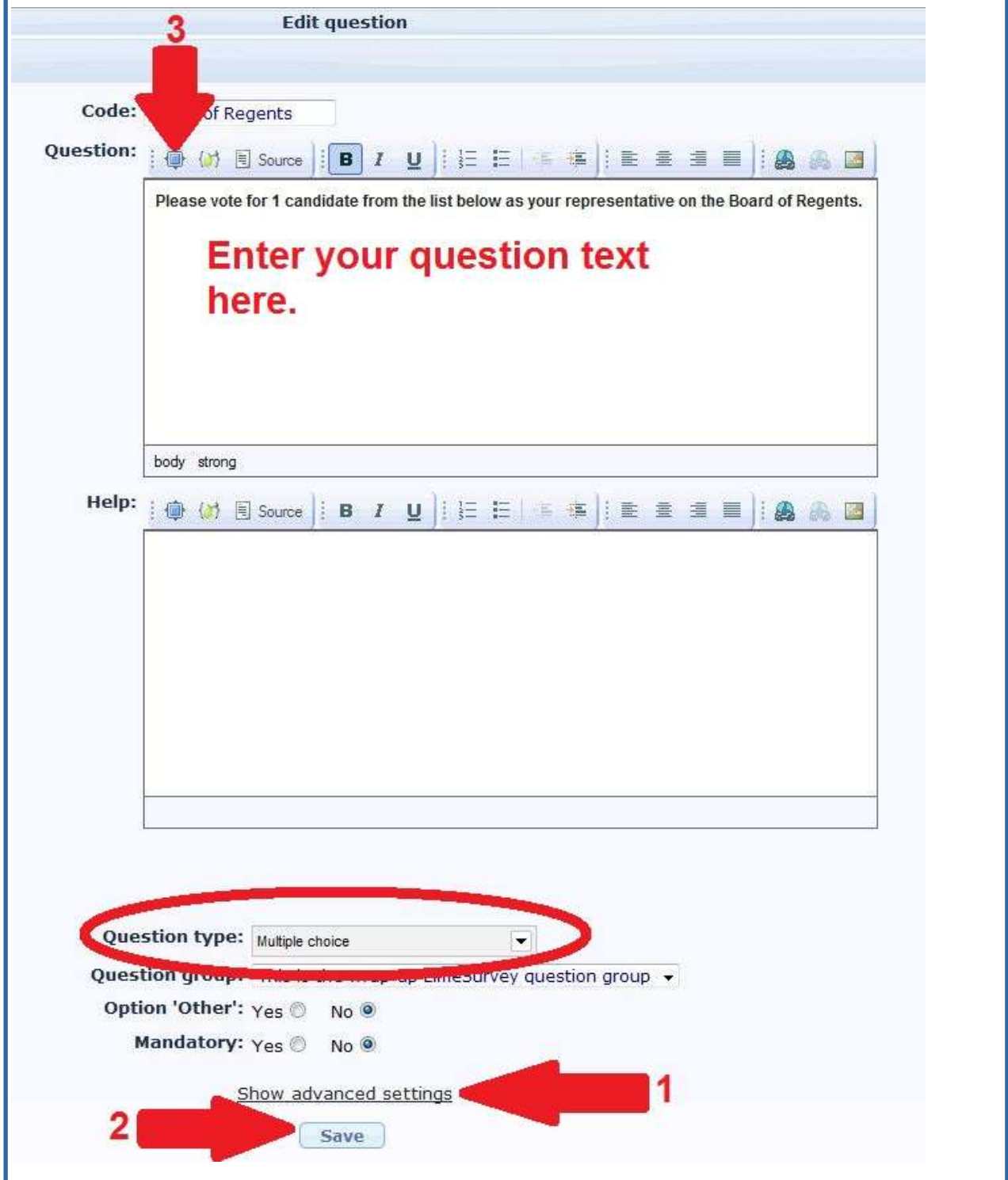


Figure 7A: The Editor in its expanded mode. In expanded mode the editor occupies the full page in your web browser. Click the icon pointed to by the red arrow to return to the condensed mode display.



Step 2:

Upon clicking the *Show advanced settings* link (pointed to by red arrow 1 in Figure 7 above) more content appears in the form, presenting additional customization settings you can specify for the question, as illustrated in Figure 8 below.

Figure 8: Configuring the *multiple choice* question type to use it as a ballot – part 2.

Question type:

Question group:

Option 'Other': Yes No

Mandatory: Yes No

[Hide advanced settings](#)

Display

Display columns:

Hide tip: ← 3

Label for 'Other:' option:

Random answer order: ← 4

Always hide this question:

Logic

Minimum answers:

Maximum answers: ← 1

Array filter exclusion:

Randomization group name:

Numbers only for 'Other':

Assessment value:

Array filter:

Exclusive option: ← 2

Auto-check exclusive option if all others are checked:

Other

Show in public statistics:

Insert page break in printable view:

SPSS export scale type:

← 5

Step 3:

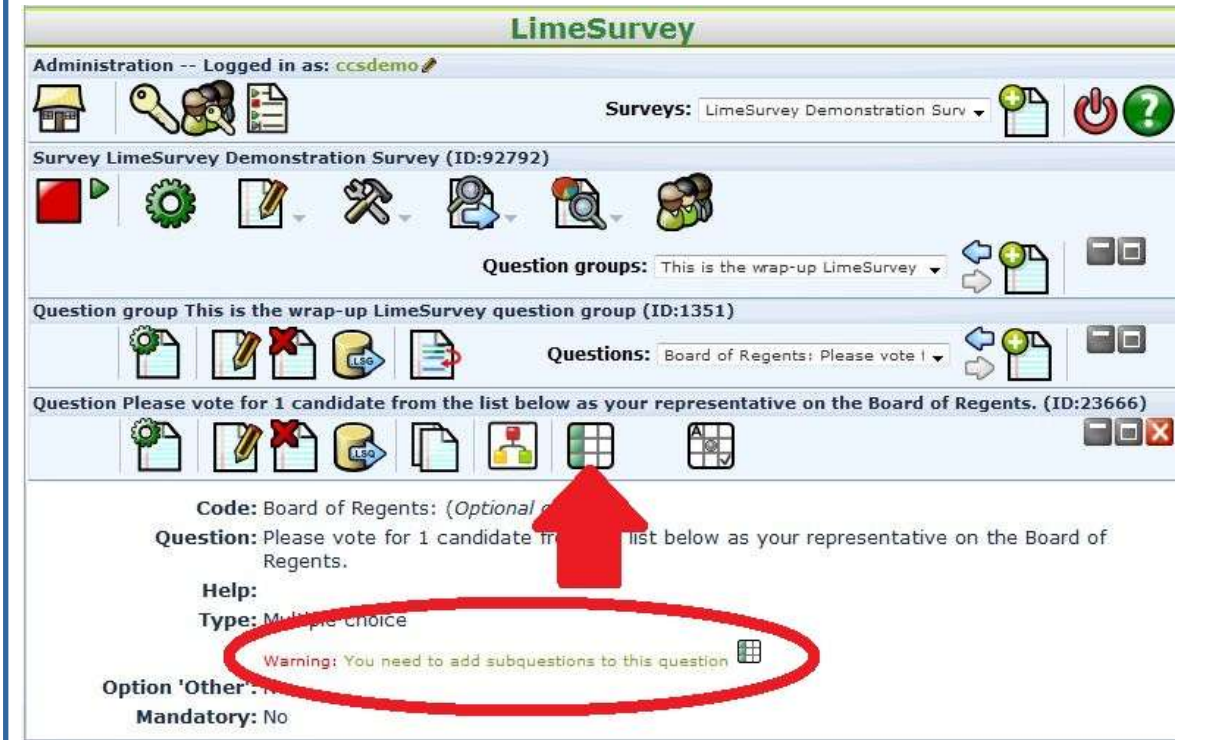
Referring to Figure 8 above:

- a) In the field pointed to by red arrow 1: specify the maximum choices your respondent can select from the answers (recall that the answers are the list of candidates i.e. the sub-questions). This value would be 1 if the respondent can only vote for one person on the list. The value would be 2 if the respondent can make two choices from the list, and so on.
- b) In the field pointed to by red arrow 2: enter the *code* assigned to the sub-question that is the “exclusive option” i.e. the choice stating the respondent wishes to abstain from voting on this ballot. When the respondent clicks this choice, all other choices are deselected and are unavailable until this “Exclusive option” choice is clicked again to deselect it. The location of the sub-question’s *code* is shown in Figure 11.
- c) For the selection pointed to by red arrow 3, choose “Yes” to hide the question’s tooltip. The tooltip should be hidden in most cases.
- d) For the selection pointed to by red arrow 4, choose “Yes” if you wish to have the subquestions (i.e. the list of candidates) presented in a random order. Note that the position of the “exclusive option” sub-question will also be randomized. Note also that the order of the sub-questions will be randomized each time they are presented, so a voter will likely see a different order if they use your survey’s <Previous> button to return to this ballot.
- e) Ensure you click the form’s Save button (pointed to by red arrow 5) to save your question’s configuration.

Step 4:

After you have clicked the Save button you will be advised that you need to add sub-questions for the question (see Figure 9 below). Remember that in an election scenario, the sub-questions correspond to the list of candidates that are to be displayed or the choices a voter can select from. Click the icon pointed to by the red arrow in Figure 9 to add your sub-questions.

Figure 9: The advisory that appears to remind you that you need to supply sub-questions for your *multiple choice* question. The sub-questions correspond to the candidates on the ballot and may include an “exclusive option” choice.



Step 5:

After clicking the icon pointed to by the red arrow in Figure 9, you will be presented with the form illustrated in Figure 10 below. You add each of your “candidates” as sub-questions to this form.

Referring to Figure 10:

- a) For the first candidate, enter the text you wish to appear for the choice - enter this text in the area pointed to by red arrow 1. In an election scenario, the text is the name of the candidate. Whatever you enter in this field will be displayed for this choice on the ballot.

- b) To add another sub-question (i.e. another candidate/choice to appear in the list), click the plus sign pointed to by red arrow 2.
- c) To remove a sub-question (i.e. a candidate from the list), click the minus sign beside the sub-question, as pointed to by red arrow 3.
- d) To access the editor to enable formatting of the sub-question, click the pencil icon pointed to by red arrow 4.

Tip: you may wish to add special formatting to the “Exclusive option” question to help voters understand this is not a candidate choice. For example you may wish to make this choice be in *red italicized text* to help it stand out as not being a candidate.

- e) As you enter information, save your sub-questions regularly by clicking the Save button pointed to by red arrow 5. Clicking this button will save your sub-questions but leave the form displayed. To exit the form after entering your sub-questions you can click any icon on any toolbar.



Step 6:

To specify which sub-question should be considered the “exclusive option” enter its *code* in the field pointed to by red arrow 2 in Figure 8. The location of the sub-question’s *code* is pointed to by the red arrow in Figure 11 below.

Figure 11: The location of the sub-question’s code.



After you have entered your questions and tested your survey, you can “announce” your survey by sending an email invitation message to the people in your token table. Please refer to the LimeSurvey Drill Down Document: *How to work with panels in LimeSurvey* for information on how to do this. The document is available on the CCS LimeSurvey web page [here](http://www.uoguelph.ca/ccs/software/supported-products/limesurvey).

The URL for the web page is:

<http://www.uoguelph.ca/ccs/software/supported-products/limesurvey>

CONCEPT 4: MAKING USE OF LINESURVEY'S BASIC REPORTING & STATISTICS TOOLS

Viewing your results as frequency counts and pie charts:

Once your survey has closed (i.e. the election period is over) you can view the results as frequency counts and pie charts by using LimeSurvey's basic *Reporting & Statistics* tools. Please refer to the LimeSurvey Drill Down document: *How to get basic statistics about your survey response data in LimeSurvey* for more information. The document is available on the CCS LimeSurvey web page [here](#).

The URL for the web page is:

<http://www.uoguelph.ca/ccs/software/supported-products/limesurvey>

Exporting your responses for further analysis:

Once your survey has closed (i.e. the election period is over) you can export the individual survey returns (i.e. the "responses to your survey") to Excel or SPSS for further analysis. Please refer to the LimeSurvey Drill Down documents: *How to export your LimeSurvey survey data into Excel* and *How to export your LimeSurvey survey data into SPSS* for more information. The documents are available on the CCS LimeSurvey web page [here](#).

The URL for the web page is:

<http://www.uoguelph.ca/ccs/software/supported-products/limesurvey>

Normally you would only export your individual survey responses to Excel or SPSS if you wanted to analyze the date stamp and timings information associated with your responses for patterns or irregularities. Your survey's metadata settings control whether these information items are recorded with the response as illustrated in Figure 6 above. Note that when your survey is configured to be fully anonymous there is no information in the response record that can be used to identify the person who submitted the response.

Determining who voted in the election / referendum:

Your survey's *token table* records who submitted a survey (i.e. "voted"). In the token table the "Completed?" column will be marked with a "Y" beside all entries where a survey was submitted (i.e. the *Submit* button was clicked in the survey). You can export the token table as a CSV (comma separated values) file for analysis if required. When the survey is configured to be fully anonymous, there is no information in the token table that would enable identification of the person's response. All that can be determined is whether a person did or did not click the "Submit" button in the survey.

In working with the information in the token table you must ensure you are in compliance with the University of Guelph's policies related to the privacy and protection of personal information. If you have any questions or concerns in this area please contact the University Secretariat by email to univsec@uoguelph.ca