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# Progress Indicators in Web Surveys

## Avoiding Jumps in Filter-based Web Surveys with a Dynamic Calculation Method

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**Summary:** Progress indicators are used to inform participants of surveys about the degree of completion and the remaining quantity of questions. When using surveys which implement filter techniques the previous known calculation methods leads to a serious problem: Filters used to skip non-appropriate items for groups of participants cause the progress indicator to jump to completion rather than progress in a smooth way. This page provides information to cope with this problem.

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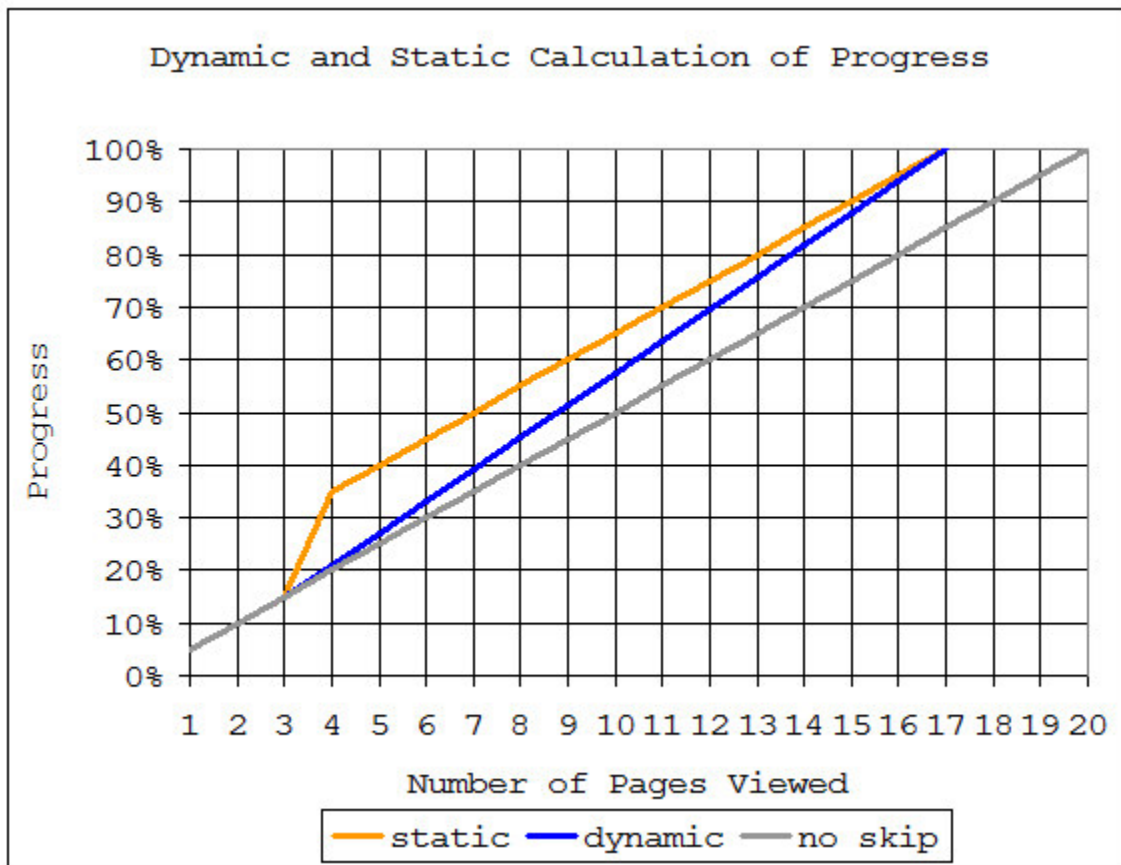
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## Dynamic Calculation of Progress

The dynamic approach is superior and more flexible than the static approach. Not only does it help to avoid jumping in conditional skips but additionally:

- The dynamic approach calculates the progress during participation for each person.
- There is no need for more information than with previous calculation methods.
- The remaining percentage is distributed among the remaining pages. This way the formula avoids a "jumping" progress in favor of an increased "speed" of progress. It is possible that this increase is not perceived by participants for small jumps compared to the number of pages still unanswered.
- The progress indicator can be initialised with any percentage
- A sudden speed up is on nearly every page possible. The formula adjusts automatically to the remaining percentage.
- An adoption to time estimations is possible.
- The formula can be implemented in a way so that even backward navigation increases the progress.
- Inserting conditional additional questions does not decrease the progress.
- The formula works in environments where the page numbers are not fixed, e.g. due to randomized pages.

The following figure shows a simple example of the development of progress with static and dynamic calculation. The orange line is the progress with a static calculation approach, the blue line shows the displayed progress for the dynamic approach. The grey line is the progress, if no skips occur. Clearly, with dynamic calculation no jump is perceivable.



## Conference Presentations

The dynamic calculation method was tested in a web experiment against static approaches and no progress indicator. The results were presented at two conferences:

- Kaczmirek, L., Neubarth, W., Bosnjak, M. & Bandilla, W. (2004, August). *Progress indicators in filter based surveys: Computing methods and their impact on drop out*. [title in the program: Computing methods and their impact on drop out.] Presentation at the RC33 Sixth International Conference on Social Science Methodology, Amsterdam, The Netherlands.
- Kaczmirek, L., Neubarth, W., Bosnjak, M. & Bandilla, W. (2005). *Progress Indicators in Filter Based Surveys: Individual and Dynamic Calculation Methods*. Presentation at the 7th international conference General Online Research 2005 (GOR05), March 22-23, 2005, Zurich, Switzerland.

### Abstract

Progress indicators are used to inform participants of surveys about the degree of completion and the remaining quantity of questions. The main aim of progress indicators is to reduce drop out rates. Theory holds that this is accomplished by allowing participants to estimate the remaining time till completion. Participants might base their estimation on the time invested in relation to the number of completed items and the perceived speed of the progress indicator. If the estimated time till completion is beyond acceptance the participant drops out.

A common method displays the number of pages/items completed and the total number of pages/items in the survey. These numbers may be visualized by a graphical bar which either substitutes the numbers or supports them. Instead of the raw pages/items numbers the percentage of completed pages/items may be displayed. These methods can be characterized as static approaches in computing the percentage till completion. When using surveys which implement filter techniques this leads to a serious problem: filters used to skip non-appropriate

items for groups of participants cause the progress indicator to jump to completion rather than progress in a smooth way. This behaviour results in unpredictable percentages in the view of participants and thus ruins the advantages of predictable time estimations.

To cope with this problem a number of computing methods were developed which can be characterized as dynamic approach. With an algorithm easy to implement the overall pages or items missing till completion are estimated for the participant on every page displayed together with an estimated total number of pages/items in the survey. These numbers vary in accordance with the filter path of the survey resulting in a smooth completion of the progress indicator. Dynamic approaches are shown which address the problem of static approaches. A web-experiment with different types of progress indicators was conducted. The experiment included a control group without progress indicator and demonstrates the impact of static vs. dynamic approaches and the perceived speed of the progress indicator on the drop out.

Keywords: progress indicator, dynamic calculation, drop out