

# Simplifying Complexity in the Student Experience: Evaluating a Redesign

In order to determine whether a redesign is achieving its goals—and to continue to refine and improve the redesign—colleges should measure key outcomes both before and after implementation. To provide an example of redesign evaluation, we describe how Macomb Community College evaluated its redesigned student orientation and academic catalog.

This is part three of CCRC's practitioner packet on streamlining the student experience. For information on how colleges can gather data on the student experience, see [Simplifying Complexity in the Student Experience: Gathering Data](#) (part one). To learn more about how colleges can use data to inform a redesign, see [Simplifying Complexity in the Student Experience: Using Data](#) (part two). For detailed examples of data collection and project management materials, see [Appendix — Sample Documents](#) (part four).

## Planning the Evaluation

Most evaluations use a pre–post method, comparing key outcome measures before and after the redesign to determine whether (and to what extent) those outcomes improved. The most rigorous evaluation methods compare pre–post changes between two groups of students—an intervention group and a comparison group. However, as we discuss below, sophisticated comparison group methods are not always feasible in the context of full-scale redesigns.

In order to plan and conduct an evaluation, colleges should consider: (1) which key outcomes to measure, (2) for whom those outcomes should be measured, and (3) when these outcomes should be measured. Colleges may also wish to draw on pre- versus post-redesign focus group and interview data to tell the “story” of what has changed.

### Determine What to Measure

Part one of this packet provides an overview of four different types of data (focus group, interview, survey, and performance) and how each can capture different aspects of the student experience. In planning how to evaluate a redesign, colleges should identify key student experiences or outcomes that ought to be immediately and directly impacted by the redesign, and determine which type of data might best capture them.

For example, based on a review of student and staff perspectives, Macomb redesigned the college's course catalog and its new student orientation. Redesign team members expected the catalog

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changes to immediately improve students' abilities to self-advise. They also hoped that, over time, this would improve retention rates. Because the catalog redesign would have an immediate and direct impact on self-advising accuracy, but only a diffuse, long-term, and difficult-to-quantify impact on retention, the college's evaluation of the new course catalog focused on students' self-advising abilities. Similarly, to evaluate the redesigned student orientation, the college focused on students' perceptions of the orientation's helpfulness.

In addition to changes to the catalog and orientation, Macomb's efforts to improve the student experience included a website redesign and other related improvements unfolding over several years. To help evaluate the larger suite of changes, the college is also tracking student retention across time.

### Determine Who to Measure

Data on key outcomes should be gathered for the specific group of students targeted by the redesign. At Macomb, the evaluation of the new student orientation focused on new incoming students, and it was straightforward to compare the outcomes of those who took the old orientation in the summer of 2012 and those who took the new version in the summer of 2013.

However, the target group for the catalog redesign was less obvious. The new catalog, released in the spring of 2013, would affect new students as they registered for the fall of 2013; but these students would already be affected by the redesign of the larger intake and orientation process, making it difficult to isolate the impact of the catalog redesign. In its evaluation, the college therefore decided to focus on the impact of the catalog redesign on the self-advising skills of first- or second-semester students who were already enrolled in spring 2013. This tactic allowed them to compare spring 2012 and spring 2013 students, both of whom had experienced only the old intake and orientation process.

In the ideal research setting, colleges would implement the redesign with one subset of the target group (the intervention group), and compare these students' improvements with a second subset of the target group (the comparison group). However, with comprehensive redesigns such as the one at Macomb, it is not possible to implement the redesign for only one subset of the target group. (For example, imagine the chaos that would ensue if two entirely different college catalogs were distributed to different groups of students at the same time.) Thus the college could only compare pre- and post-redesign outcomes for relevant target groups (e.g., by comparing students who took the orientation in the summer of 2012 and those who took it in the summer of 2013).

The disadvantage of this kind of pre-post evaluation is that other conditions may shift at the same time as the redesign implementation. It is helpful therefore to measure and compare changes in those outcomes that are very relevant to the redesign (i.e., those that should be directly and immediately influenced by it), as well as in outcomes that are less relevant (i.e., those that seem unrelated to the redesign or those that are so broad and complex that they are unlikely to shift quickly). If the very relevant outcomes shift while the less relevant ones do not, evaluators can have more confidence that the redesign, and not larger contextual factors, influenced those changes.

For example, at Macomb, the new catalog included clearer and more useful information about programs of study and course requirements, but it did not have much more information about transfer. To investigate whether changes in student self-advising accuracy were due to the redesign or rather to a change in the student body or other contextual factors, the research team measured self-advising performance in terms of program and course selection (which was expected to improve) and in terms of students' understanding of the transfer process (which was not expected to improve).

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**With comprehensive redesigns, colleges should compare pre- and post-redesign outcomes for relevant target groups.**

## Determine When to Measure

In a pre–post evaluation design, the pre-data should be gathered shortly before implementation. When to collect post-data depends on when colleges can reasonably expect the changes to impact key outcomes among the target population. However, colleges should be careful to ensure that the pre- and post-data are collected at comparable points in time. For example, if pre-measurement takes place in the late fall, then post-measurement should probably also take place in the late fall of the following year, in order to ensure that student outcomes are as comparable as possible between the two measurements.

After the first round of post-redesign data collection, colleges should further refine the redesign based on the data. Accordingly, additional rounds of post-data may be helpful to track ongoing outcome improvements.

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**Data collected post-redesign can be used to evaluate its impact and further refine the reform.**

## Analyzing Focus Group and Interview Data

While outcome evaluations typically rely on a quantitative analysis of survey and performance data (discussed in the next section), researchers may also draw on focus group and interview data to tell the “story” of what has changed, using qualitative analysis. Such analysis can be formal (transcribing all interviews and creating a set of rules to code transcript statements and identify emergent themes) or informal (jotting down one’s impressions and synthesizing them afterward). In order to provide actionable data as quickly and efficiently as possible, most colleges approach qualitative data analysis informally; thus, in the following discussion, we focus on the informal analysis approach.

During each interview (or focus group), the interviewer or an assistant should take detailed notes that capture key points (e.g., the respondent’s main opinions, suggestions, or ideas). Afterward, the interviewer should also record his or her own impressions regarding the implications of those points.

As additional interviews and focus groups are completed, these initially vague impressions will begin to sharpen into recognizable themes. It can be helpful to conduct a final and slightly more formal process of coding, using the original notes. For example, a coder could assign a color to each identified theme, and then highlight the appearance of each theme within the notes using the appropriate color. The frequency of different colors then provides a sense of how often, and in what context, the theme was discussed.

### Analyzing Qualitative Data at Macomb

To capture students' perceptions about the intake and advising process at Macomb, researchers at CCRC used a formal process, transcribing each interview or focus group and tagging each quote with specific codes.

For example, a student in one focus group described how advisors helped him with course selection:

They basically printed out a list of classes that I could take, but they didn't say which one would be the best one. They just highlighted every single one, and said "pick from these," and I really didn't know which would be the best to take. ... It was more confusing for them to give me those classes than it was to just choose what would be right.

CCRC researchers coded this quote as reflecting confusion with course selection. Student quotes were also tagged according to relevant characteristics, such as whether the student was decided or undecided on a program of study.

By combining coded information across transcripts, researchers determined that students who were undecided on a program of study were three times more likely than decided students to make comments about difficulties or confusion regarding course selection.

To complement pre-post quantitative outcome evaluation, qualitative data can be collected in a pre-post manner. For example, a college could use focus group or interview data to track whether undecided students' experiences with course selection tended to shift from pre- to post-implementation, such as from *confusing* to *straightforward*.

## Analyzing Performance and Survey Data

While qualitative data provide context and explanation about people's perceptions and opinions, quantitative data are more useful for measuring the direction and strength of those perceptions and opinions. For example, a survey could ask students to rate their satisfaction with advising from 1 (very dissatisfied) to 5 (very satisfied).

Perhaps the most useful way to summarize results from a typical quantitative dataset is to calculate percentages. For example, using a satisfaction survey, researchers can calculate the proportion of students who were dissatisfied (a rating of 1 or 2), neutral (a rating of 3), or satisfied (a rating of 4 or 5). Further analysis could then examine the group of dissatisfied students to understand who they are and how the redesign might be refined to improve their experiences.

Below, we describe how Macomb analyzed quantitative data to determine the extent of improvement based on student perceptions and outcomes across time.

### Survey Data Analysis

To determine whether the redesigned orientation was more helpful to students as they sought to make decisions regarding program, course, and transfer school selection, a survey asked students to rate the orientation's helpfulness in several areas on a scale from 1 (not helpful) to 3 (very helpful). The research team calculated the percentage of students who rated each item as very helpful and compared that percentage between the pre- and post-implementation cohorts.

As the table below shows, the proportion of students rating orientation items as very helpful improved across a number of areas, with the improvements concentrated among the areas that were the strongest focus of the orientation redesign.

**Quantitative data are useful for measuring the direction and strength of people's perceptions and opinions.**

**Student Perceptions of Orientation's Helpfulness**

PERCENTAGE REPORTING "VERY HELPFUL"			
AREA	PRE	POST	DIFFERENCE
Functions available in WebAdvisor	71	78	+7
How to log into/use WebAdvisor	69	76	+8
How to read/understand course catalog	70	69	0
How to read/understand a program plan	68	69	+1
How to read/understand schedule of classes	78	79	+1
Options for areas of study	70	70	0
Options for transfer	57	66	+9
How to choose the right courses	61	66	+5
How to register for classes	68	70	+2
How to get more information on areas of study, transfer options, courses to take	66	71	+5
How to get more information on employment/career options	58	68	+10

Note. Differences may be slightly different from the whole-number differences between columns 1 and 2 due to rounding error.

While the overall results were encouraging, Macomb was most concerned with whether orientation was helpful for students with specific information needs. For example, students who had already chosen an area of study would probably ignore information about how to choose a program, while undecided students would find that information much more helpful. To differentiate between these students, the survey also asked students whether they had chosen a specific area of study and whether they had already selected a transfer destination (or had any interest in transferring).

The table below focuses on the "helpfulness in choosing a specific area of study" item, broken out by students' level of decidedness. The college was most interested in whether perceptions of helpfulness improved among the "maybe" and "no" students. Unfortunately, no strong improvements were observed. Accordingly, the college is continuing its efforts to improve the helpfulness of orientation in this area.

**Student Perceptions of Orientation's Helpfulness in Choosing an Area of Study**

PERCENTAGE REPORTING "VERY HELPFUL"			
CHOSEN SPECIFIC AREA OF STUDY?	PRE	POST	DIFFERENCE
Yes	75	75	0
Maybe, trying to narrow options now	67	69	+2
No, no idea yet	60	61	+1

The third table focuses on the "helpfulness in understanding options for transfer" item, broken out by students' interest in transfer. The college expected that students uninterested in transfer would ignore information about transfer options. Similarly, students who were already decided on a specific transfer destination would be unlikely to find information about alternative transfer options helpful.

The college was therefore most interested in whether perceptions of helpfulness improved among the remaining students—those who were unsure whether they wanted to transfer, or who were interested in transfer but undecided on their destination. And indeed, the perceived helpfulness of the orientation regarding transfer options for this group of students improved by 16 percentage points, compared with more modest improvements among the other two groups.

<b>Student Perceptions of Orientation’s Helpfulness in Understanding Options for Transfer</b>			
<b>PERCENTAGE REPORTING “VERY HELPFUL”</b>			
<b>INTERESTED IN TRANSFER?</b>	<b>PRE</b>	<b>POST</b>	<b>DIFFERENCE</b>
Yes, and have specific school in mind	64	67	+3
Unsure, or unsure which school	49	66	+16
No, not interested in transfer	57	64	+7

As we emphasized earlier, evaluation analyses work best when they focus narrowly on the population of interest. If Macomb had concluded their analysis with the overall numbers presented in the first table, they would have overlooked the 16 percentage point improvement for the most relevant students.

**Evaluation analyses work best when they focus narrowly on the population of interest.**

### Performance Data Analysis

As described in [part one](#) of this practitioner packet, students’ self-advising skills were assessed at Macomb using hypothetical scenarios that included self-advising questions with verifiable right or wrong answers. Using a grading rubric designed by the college’s advising staff, each student’s scenario was graded on a 0–100 percent scale. For example, a 0 percent score on “selecting courses” indicates the student responded incorrectly to all items related to course selection, and a 100 percent score indicates uniformly correct responses.

The research team averaged students’ scores within each group of items and calculated the difference between the pre-implementation and post-implementation cohorts. As the table below shows, students’ low pre-implementation performance improved substantially after the introduction of the new catalog. This improvement was concentrated in the areas of selecting courses and choosing a program of study; students’ understanding of transfer did not improve at all.

<b>Changes in Student Performance on Self-Advising Tasks</b>			
<b>AVERAGE % CORRECT ITEMS</b>			
<b>TASK FOCUS</b>	<b>PRE</b>	<b>POST</b>	<b>DIFFERENCE</b>
Selecting courses	40	63	+23
Choosing program	76	86	+10
Understanding transfer	50	50	0

As discussed above, the course catalog redesign had not incorporated additional information about transfer. Thus, the absence of improvements in this area was expected and furthermore helped confirm that improvements to self-advising in the other areas probably derived from the redesign rather than from a change in the student population or contextual factors.

## Conclusion

A redesign should be viewed as an ongoing process, not as an end in itself. Similarly, the redesign evaluation should be understood as a continuous, iterative process, providing the college with timely data on both positive progress and areas for further improvement.

In the case of Macomb, the redesign clearly made substantial improvements to some aspects of the student intake and self-advising experience. Nevertheless, the data also indicate specific areas where the college has more work to do. Eventually, the college hopes to stabilize all orientation “very helpful” percentages as well as the percentage of correct self-advising items at a level of 80 percent or better. Accordingly, one next step for the college will be an improvement in the clarity, availability, and user-friendliness of information related to transfer options and requirements.

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**A redesign evaluation should be understood as an iterative process that provides data on progress and areas for further improvement.**

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