Developing a Programmatic Assessment Plan for the Use of Open and Affordable Course Materials at Fitchburg State University

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Part I: The Assessment Plan

Fitchburg State University Open and Affordable Education Assessment Plan for Undergraduate Students

General Metrics
Goal 1: Open and Affordable Educational Resources will become the rule rather than the exception for course materials

Cost
Goal 1: Fitchburg State University students will financially benefit from the incorporation of open and affordable course materials into the university curriculum.

Goal 2: University investments in Open Education will result in student textbook savings.

Outcomes
Goal 1: Students enrolled in courses using No/Low course materials will see increased improvements in academic performance.

Usage
Goal 1: Fitchburg State University faculty will exercise OER permissions and licensing with Open Educational materials.

Perceptions
Goal 1: Faculty recognize the value and quality of Open Educational Resources.

Goal 2: Students are satisfied with the ease of access and affordability of No/Low course materials.

Part II: Strategies for Implementation
Overview

General Metrics
Course Sections
Student Enrollment in No/Low Course Sections.

Fitchburg State University Open and Affordable Education Assessment Plan for Undergraduate Students

Version 1.0 - May 2021. Draft approved by FSU Open and Affordable Education Committee in April 2021.

This draft will be presented to the Massachusetts OER Statewide Advisory Board on Monday, May 17 and the FSU Academic Affairs team on May 26, 2021.

This assessment plan is designed to evaluate the growth and effectiveness of the university's open and affordable education initiatives. Metrics identified in this plan align with the Massachusetts Board of Higher Education proposed metrics which are based on the Open Education Group's COUP Framework.

Objectives currently do not include baseline data or target goals. Baseline data needs to be collected and based on that information target goals can be set. It is anticipated that the assessment plan could go into effect during AY 2022-2023.

Following the assessment plan are strategies for implementation which provide questions for consideration when collecting data to establish baseline metrics and setting target goals.

General Metrics

Goal 1: Open and Affordable Educational Resources will become the rule rather than the exception for course materials

Objective 1:
By June 2025, of all undergraduate course sections offered, the use of No/Low course materials will increase from X% to Y% per academic year.

Objective 2:
By June 2025, the number of undergraduate students enrolled in a course section using No/Low course materials will increase from X% to Y%.

Cost

Goal 1: Fitchburg State University students will financially benefit from the incorporation of open and affordable course materials into the university curriculum.

Objective 1:
By June 2025, the total cost savings in textbooks to students enrolled in No/Low courses will increase from $X per academic year to $Y per academic year.

Goal 2: University investments in Open Education will result in student textbook savings.

Objective 1:
By June 2025, for every $1 spent on OER grant incentives, the return on investment in textbook savings will be X% per academic year.

Outcomes

Goal 1: Students enrolled in courses using No/Low course materials will see increased improvements in academic performance.

Objective 1:
Students enrolled in No/Low courses will have lower D/F/W rates than students enrolled in similar courses with commercial textbooks.

Objective 2:
Students enrolled in No/Low courses will score as well as or better than students enrolled in courses with commercial textbooks on student learning outcomes.

Usage

Goal 1: Fitchburg State University faculty will exercise OER permissions and licensing with Open Educational materials.

Objective 1A:

By 2025, the number of faculty adopting Open Educational Materials will increase from X% to Y%.

Objective 1B:

By 2025, the number of faculty who adapt existing Open Educational Materials will increase from X% to Y%.

NOTE: adapt entails any of the following:
Deleting material from an OER
Inserting other open material inside the OER
Moving material around within the OER
Editing material in the OER

Objective 1C:

By 2025, the number of faculty who create Open Educational Materials will increase from X% to Y%.

Objective 2:

By 2025, the number of faculty participating in OER professional development opportunities will increase from X% to Y%.

Perceptions

Goal 1: Faculty recognize the value and quality of Open Educational Resources.

Objective 1:

The number of faculty who perceive the quality of Open Educational Resources to be comparable to or better than commercial textbooks will increase from X% to Y%.

Objective 2:

The number of faculty who perceive increased student engagement as a result of using No/Low course materials will increase from X% to Y%.

Goal 2: Students are satisfied with the ease of access and affordability of No/Low course materials.

Objective 1:

X% of students are highly satisfied with ease of access to No/Low course materials.

Objective 2:

X% of students believe they learned as much or more from an open educational resource than a traditional textbook.

Strategies for Implementation

Overview

While the first section of this document outlined a proposed programmatic assessment plan, the remainder of this document provides suggestions on how to implement the metrics.

For each metric, there are three components:
- Decisions to be made: questions are posed that you might want to consider when planning to implement the metric
- Establishing baseline data: provides options for how you might calculate baseline data. Examples of how to calculate the metrics are provided.
- Establishing target goals: provides considerations when establishing what your target goal might be. Target goals are unique to each institution. As a result, there isn't a set number or target that can be universally applied.

Why calculate baseline data? It is important to calculate baseline data so the institution knows the current status of its initiatives. Ideally, you would have at least 2 years of data to help ensure that your baseline calculation is not an anomaly (i.e. years in which OER use is out of the normal range.)

Why calculate a target goal? A target goal helps identify the level of progress the organization believes it can achieve in a specified timeframe. It provides a framework for what success may look like.

General Consideration when considering target goals. This applies to all metrics.
1. What resources are available to help support No/Low growth?
    a. Financial resources to offer incentives (grant programs)
    b. Human capital - are there enough staff/faculty who have time to dedicate to onboarding new faculty using No/Low

2. What is the culture of No/Low at your institution and state level?
    a. Is there a state mandate that needs to be met?
    b. What is the appetite for No/Low on your campus?
    c. How active is your student government on No/Low

3. [Diffusion Theory](#) & the [S Curve](#) - Where is your organization in the S curve of No/Low Adoption? That will help determine how quickly you can scale your program in a given time period.

General Metrics

Course Sections

Example of Performance Metric: By June 2025, the number of undergraduate course sections using No/Low course materials will increase from from X% per academic year to Y% per academic year.

Decisions to be made when identifying course sections:

1. Should data be collected annually, biannually, or per semester?

2. Should data be reported annually, biannually, or per semester?

3. Are graduate courses included?

4. Do you include Labs, 0 enrollment courses, Practicums/Internships/Independent studies?

5. Are you including low cost materials or only no cost materials?
   a. If Low cost, Under what amount is considered low cost?
      i. Connecticut - No/Low is <$40
      ii. Oregon schools $<40
      iii. Massachusetts $<50 (proposed)
   b. If low cost, what course materials are included (i.e textbooks, access codes etc.)
      i. [Connecticut Guidelines](#)
      ii. [Georgia Guidelines](#)
      iii. [Massachusetts Guidelines (Proposed)](#)

6. How to identify sections using No/Low?
   a. Course designation in seats list
      i. Bookstore
      ii. Registrar
   b. Survey faculty (run risk of under-reporting)

Calculating baseline data

Current % of courses that are No/Low

Formula: Number of No/Low sections offered during a specified time period / total number of sections offered during the same time period.

Example:
University offers 2000 sections during an academic year.
Baseline data identifies 50 courses are currently No/Low.
Percentage of sections using No/Low is **2.5% or 50/2000**

Establishing Target Goal

Considerations:
- Based on the baseline data identified, how much growth can be achieved in a given time period?
  - Scope and scalability. How much growth is reasonable and achievable in the given time frame.

    Example: Baseline data show 2.5% of offered courses use No/Low. If you want to increase the percentage to 30%, the target goal would be to increase No/Low course offering from 50 to 600 courses. An increase of 550 sections during a designated time period. Is that an achievable target for the given timeframe?

Student Enrollment in No/Low Course Sections.

A common metric is to determine the number of students enrolled in No/Low courses. To determine this, users first need to determine the course sections that are No/Low (see section above).

Example of Performance Metric: By June 2025, the number of undergraduate students enrolled in a course section using Low/No course materials will increase from X% per academic year to Y% per academic year.

Decisions to be made when determining student enrollments
1. How do you identify the number of students?
   a. Seats list
      i. Do you use enrollment based on seat count at the start of semester, after Drop/Add, or after Withdrawal date?
      ii. Faculty survey

2. How do you tally the number of students?
    a. Total number of students enrolled in No/Low courses (some students may be enrolled in multiple courses meaning 1 student may be counted twice if enrolled in 2 No/Low courses.
    b. Unique number of students enrolled in No/Low courses. This would require obtaining a list of students in each section and deduping students enrolled in multiple No/Low courses.

Calculating baseline data (current number of students enrolled in No/Low courses)

Formula:

Step 1. Identify the number of sections that meet the No/Low criteria offered within your reporting timeframe. Tally the number of students enrolled in those courses.

Step 2. Tally the number of students enrolled in every section offered within your reporting timeframe.

Step 3. Number of students enrolled in No/Low courses / Number of students enrolled in all course sections.

Establishing Target Goal

Considerations:
Once you know the percentage of students using No/Low during a given time period, you can establish a target for where you hope to be in the given timeframe.

In addition to Target Goal considerations mentioned on page 5, you may want to consider the following as well:

- Will your organization prioritize efforts to convert courses with high enrollments. If so, you could assume a higher percentage of students will be using No/Low than if the prioritization is evenly distributed across all sections regardless of enrollments.

- How well does your organization promote No/Low course materials. Do students know what the designation means?

- What is the socioeconomic status of your student population? Would students be actively seeking courses with no/low course materials?

- Is student enrollment increasing or decreasing?

Cost Savings

To identify cost savings to students, you will need to identify the courses using No/Low and number of students enrolled in those sections. (See sections above for suggestions on how to do this).

Student Course Materials Savings

Example of Performance Metric: By June 2025, the total cost savings in textbooks to undergraduate students as a results of courses transitioning from commercial textbooks to No/Low course materials will increase from $X per academic year to $Y per academic year.

Decisions to be made when identifying textbook prices:
1. How should textbook costs be determined? Options include but not limited to:
   a. National average textbook costs
      i. [OpenStax 2018 estimate](): $79.37
      ii. [Open Textbook Network 2017]()estimate: $100
      iii. [National Association of College Stores 2014 estimate]():$82)
   b. Lowest title textbook price (used, rented or digital)
   c. New textbook cost

2. If using actual textbook cost (b and c above), how do you identify which textbook should be used?
   a. Ask faculty to provide information about the textbook they would have used if they didn't adopt No/Low or textbook they used in the past.
   b. Work with the bookstore to determine past book requests for a course.

3. If including Low cost materials in your assessment, how do you calculate low cost in relation to student savings.
   a. Actual cost of course material in a Low cost course
   b. Max cost to be considered low cost course materials. (i.e. if low cost is considered <$40 then use $40 for each section
   c. Calculate average cost of all Low cost course materials

Calculating baseline data (Textbook savings per academic year)

Formula: Depending on the answer to the above questions, there are 4 different formulas that can be used either independently or in combination with one another.

Option 1: No Cost Materials Only. Using average textbook costs

Formula: Total cost savings = National average costs of textbooks x the number of students enrolled in no cost course.

Example: $79.37 (OpenStax average) x 1000 students = $79, 370

Option 2: No Cost Materials Only. Using actual textbook cost per the bookstore

Formula: Total cost savings = Actual textbook cost per section x number of enrolled students in that section. Repeat for each section. Total savings for each section to reach grand total.

Example:
Course 1 textbook cost = $200. 50 students enrolled. Textbook saving $10,000

Course 2 textbook cost = $100. 35 students enrolled. Textbook savings = $3,500

Total textbooks savings: $10,000 + $3,500 = $13,500

Option 3: Low Cost Materials. Using a national average textbook cost and average low cost as determined by your university.
Formula: (National average textbook price - average low cost course material price) X by number of students enrolled in low cost courses

Example:
79.37 (OpenStax average) -$40 (average low cost price) = $39.37 in savings per student.

$39.37(textbook savings) x 1000 students (enrolled in low cost courses) = $39,370

Option 4: Low Cost Materials Only. Using actual textbook cost per the bookstore and actual cost of low cost course materials

Formula:
Step 1. Calculate Course Savings: Total cost savings = Actual textbook price - actual low cost course material price) x number of enrolled students in that section.

Step 2. Repeat for each section.

Step 3. Total savings for each section to reach grand total.

Example:
Class 1: $100 (Actual textbook cost) -$35 (actual low cost price) = $65 savings per student.

$65 (textbook savings) x 30 students (enrolled in that section) = $1,950

Class 2: $200 (Actual textbook cost) -$25 (actual low cost price) = $175 in savings per student.
$175 (textbook savings) x 50 students (enrolled in that section) = $8,750

Total textbooks savings: $1,950 + $8,750 = $10,700

Establishing Target Goal

Considerations:
Once you know the baseline percentage of course material savings as a result of No/Low during a given time period, you can establish a target goal for projected savings at a future date. In addition to Target Goal considerations mentioned on page 5, you may want to consider the following as well:

- Will your organization effectively prioritize efforts to convert courses with high textbooks costs?

- Will your organization effectively prioritize converting classes with high enrollments and those that are offered frequently (LA&S classes, required courses in a major, etc.)?

If you answered yes to the above, you could be more ambitious in your goal setting and assume a higher course material saving resulting from the use of No/Low than if the prioritization is evenly distributed across all sections regardless of cost, enrollments and course frequency.

Return on Investments for University OER Grants

To calculate a return on investment, you will need to have textbook savings data which is described above. In addition, your institution would need to offer a grant program for faculty to switch from a commercial textbook to No/Low course materials.

Example of Performance Metric: By June 2025, for every $1 spent on OER grant incentives, the return on investment in textbook savings will be X% per academic year.

Decisions to be made when determining return on investment

1. Allocation of grant funds. How many grants will be awarded and in what amount?
    a. Lower stipends may allow for more grants to be awarded which would likely increase your return on investment. However, it could also not be enough to incentivize faculty to apply.
    b. Larger stipends will result in fewer grants being awarded which could decrease your return on investment.

Establishing Baseline data

Formula:

Step 1: ROI= (Current Value of Investment−Cost of Investment) / Cost of Investment

Step 2: Multiple ROI by 100 to get the percentage.

Example: $5000 in grants were awarded. Courses that received grants yield $25,000 in course materials savings.

Step 1: Return on Investment: (25000-5000)/5000= 4

Step 2: Percentage calculation: 4*100 = 400% return on investment

Another way to phrase this is for every $1 spent on OER grants, $4.00 of course material savings is realized each semester the course is taught.

Establishing a Target Goal:

The target goal is likely to be comparable to the baseline. Growth opportunities are limited.

Measuring Outcomes

Outcome measurements won't necessarily have target goals. Rather these outcomes are comparative. You are comparing performance outcomes between students enrolled in courses using OER and students enrolled in courses using commercial textbooks.

These metrics can be difficult to measure because there are other factors impacting the metrics than just No/Low course materials. The professor can play a role in how well a student does in a semester. Additional factors such as class participation and extra credit can impact the final grade. Lastly, make-up of the class can impact final grades.

For more detailed information on how to control for these variables and statistical analysis, the *Guidebook to Research on Open Educational Resources Adoption* by Hilton III, Wiley, Fischer, and Nyland is a useful resource.

DFW Rates

Example Performance Metric: Students enrolled in No/Low courses will have lower D/F/W rates (students with grades lower than C or who withdrew from the course) than students enrolled in similar courses with commercial textbooks.

Decisions to be made when determining D/F/W rates
1. What will the results be compared to?
    a. Same course in the same semester where one section is using OER and another section is not (Faculty would likely be different)
    b. Same course taught by same professor but in different semesters (i.e. Professor uses a commercial textbook in Fall 2021. Adopts OER in Spring 2022). Compare DFW rates between Fall 2021 and Spring 2022 students.
    c. Compare DFW rates against departmental averages for course.

2. Data collection considerations
    a. How frequently will this data be collected?
    b. How broadly will this data be collected?
        i. Collect data in every No/Low course every semester or year
        ii. Sampling of No/Low courses each semester

Establishing Baseline data

The process for determining baseline data is based on the *Guidebook to Research on Open Educational Resources Adoption* pages 8-9 by Hilton III, Wiley, Fischer, and Nyland

Example:

Step 1. For a given class using No/Low materials, obtain the final grades from the Registrar's office.

WRIT I Section 1 using No/Low materials final grades. Enrollment 25 students

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F	W
# of students	4	2	2	3	0	3	5	0	2	1	0	1	2

Step 2. Obtain final grades for the same course that uses a commercial textbook
WRIT I Section 2 using commercial materials final grades. Enrollment 25 students

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F	W
# of students	5	2	1	2	1	2	3	0	2	2	0	2	2

Step 3. Calculate the percentage of withdrawals and students who received a final grade of C or better.

WRIT I Section 1 with No/Low
- Withdrawal Percentage: **W = 2 or .08 (8%)**
- C or better: A = 4   A- = 2 B+ = 2 B= 3 B- = 0 C+=3 C= 5 **Total: 19 or .76 (76%)**

WRIT I Section 2 with Commercial
- Withdrawal Percentage: **W = 2 or .08 (8%)**
- C or better: A = 5   A- = 2 B+ = 1 B= 2 B- =1 C+=2 C= 3 **Total: 16 or .64 (64%)**

Step 4. Multiply the Withdrawal and C or better to calculate the DFW rate.
- WRIT I Section 1 with No/Low: .08 X .76 = .0608
- WRIT I Section 2 with Commercial: .08 X .64 = .0512

Step 5. Conduct a z-test of proportions to determine if there is a significant difference in scores between courses using No/Low and commercial textbooks. There are online Z-test calculators that can be used if statistical software like R, SPSS, or SAS is not available.

Using https://mathcracker.com/z-test-for-one-proportion and https://www.socscistatistics.com/tests/ztest/ found the results not to be significant so while there may have been higher levels of C or better in the class with No/Low materials, it is not significantly different between the course section using commercial course materials.

Student Learning

Example Performance Metric: Students enrolled in No/Low courses will score as well as or better than students enrolled in courses with commercial textbooks on student learning outcomes.

Decisions to be made when determining student performance

Many of the decisions to be made are similar to the DFW metric.
1. What will the results be compared to?
    a. Same course in the same semester where one section is using OER and another section is not (Faculty would likely be different)
    b. Same course taught by same professor but in different semesters

2. Data collection considerations
    a. How frequently will this data be collected?
    b. How broadly will this data be collected?
        i. Collect data in every No/Low course every semester
        ii. Sampling of No/Low courses each semester

3. A new and important consideration is how will you measure student learning?
    a. Final course grade
    b. Final grade on a final exam or project
    c. Assessing a final project or paper using a rubric

Establishing Baseline data

Final Grades or final grade on an exam or project is similar to the DFW metric above. See pages 6-7 of the *Guidebook to Research on Open Educational Resources Adoption* pages 8-9 by Hilton III, Wiley, Fischer, and Nyland

Step 1. For a given class using No/Low materials, obtain the final grades from the Registrar's office or final project grade from the professor.

WRIT I class using No/Low materials final grades. Enrollment 25 students

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F	W
# of students	4	2	2	3	0	3	5	0	2	1	0	1	2

Step 2. Obtain final grades for the same class that uses a commercial textbook

WRIT I class using commercial materials final grades. Enrollment 25 students

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F	W
# of students	5	2	1	2	1	2	3	0	2	2	0	2	2

Step 3. Convert the final grade to its numeric equivalent and calculate the average final grade

WRIT I Section 1 using No/Low materials final grades. Enrollment 25 students

Student Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	F	Total:	Avg. Final Grade
Numerical Grade	4.0	3.7	3.3	3.0	2.7	2.3	2.0	1.7	1.3	1.0	0.0		
Number of grades	4	2	2	3	0	3	5	0	2	1	1	25	
Calculated grade Numerical grade*Number of grades	16	.7.4	6.6	9	0	6.9	10	0	2.6	1	0	59.5	2.38

WRIT I Section 2 using No/Low materials final grades. Enrollment 25 students

Student Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	F	Total:	Avg. Final

													Grade
Numerical Grade	4.0	3.7	3.3	3.0	2.7	2.3	2.0	1.7	1.3	1.0	0.0		
Number of grades	5	2	1	2	1	2	3	0	2	2	2	25	
Calculated grade Numerical grade*Number of grades	20	.7.4	3.3	6	2.7	4.6	6	0	2.6	1	0	47.66	1.91

Step 4. If no demographic data was collected, conduct a test to determine whether there is a significant difference between the average final grade for the course using No/Low materials and the course using commercial course materials. (Note if demographic data was collected, you can conduct a multiple regression analysis or ANOVA/ANCOVA). This example is using a t-test.

Using https://www.socscistatistics.com/tests/studenttest/default.aspx found the results not to be significant so while there may have been difference in the average grades in the class with No/Low materials, it is not significantly different between the course section using commercial course materials.

Note on using rubric to measure student learning. You would need to score each artifact using a rubric created in-house or through an organization like the Value Rubrics from Association American Colleges & Universities.

Step 1. Blind the artifacts so reviewers do not know whether the artifact is from a course using No/Low course or a commercial text.

Step 2. Evaluate the artifact based on the rubric.

Step 3. Once scored on the rubric, reassign the artifact to the appropriate course sections - No Low or commercial course materials.

Step 4. Once you have the scores from the rubric, proceed to step 3 described above but instead of using the course grade calculation, use the rubric score.

Usage

Faculty who use No/Low Course Materials

This metric is different from the number of courses using No/Low metric because it is reporting on unique faculty who use OER. For example, a faculty member may have four courses in which they adopted No/Low materials. In the number of courses metric, the result would be 4. In the faculty usage metric, the result would be 1.

Faculty Usage metrics help inform the level of faculty participation in a No/Low program. How prolific are No/Low courses in the culture of the university? Are many faculty using No/Low course materials or is it a smaller group who are using No/Low for most of their courses.

Example Performance Metric: By 2025, the number of faculty adopting Open Educational Materials will increase from X% to Y%

Example Performance Metric: By 2025, the number of faculty who adapt existing Open Educational Materials will increase from X% to Y%

Example Performance Metric: By 2025, the number of faculty who create Open Educational Materials will increase from X% to Y%

Decisions to be made when determining faculty usage:

1. Are you combining faculty who adopt, adapt and create into one metric or do you want to report on each separately?

Establishing Baseline data
Calculating baseline data
Current number of faculty using No/Low course materials

Formula:
- Identify the Number of No/Low sections offered during a specified time period
  - **Example:** a list of courses using No/Low materials include
    - Tina Ching - Introduction to Game Design - Creation
    - Tina Ching - Programming Game Design - Adoption
    - Tina Ching - Introduction to C++ - Adoption

- ■ Brian Cortezia - English Lit II - Adoption
- ■ John Jones - Algebra 1 - Adoption
- ■ John Jones - Probability & Statistics - Creation
- ■ John Jones - Calculus I - Creation
- ■ Aanya Krishnamurthy - Adoption
- ■ Juan Rivera - World Civ I - Adaption
- ■ Sally Sandford - Biology I - Adaption

- **Option 1:** If reporting all No/Low use as a single metric (i.e. adoption, adapting and creating are not broken out individually), dedupe faculty who taught multiple courses so you have a list of unique faculty

   Using the information in the example of above, the number of unique faculty using No/Low materials is 6 (Ching, Cortezia, Jones, Krishnamurthy, Rivera and Sandford)

- **Option 2:** If reporting individual metrics for faculty who adopt, adapt or create No/Low, categorize each course into the appropriate category. Remove duplicated faculty.
  - ○ Adoption   Adaption   Creation
    Ching   Rivera   Ching
    Ching   Sandford   Jones
    Cortezia   Jones
    Krishnamurthy
    Jones

   Total unique faculty who adopted: 4
   Total unique faculty who adapted: 2
   Total unique faculty who created: 2

When reporting by type of No/Low material used, you may have faculty appear in more than one category. If asked to report on the total number of unique faculty using No/Low, then use option 1.

Option 2 provides more granular information and demonstrates the range of No/Low on campus which can be valuable data to report. If using option 2, include a note indicating that the number may be slightly inflated because some faculty fell into multiple categories.

Establishing a Target Goal:

Considerations:
Once you know the baseline percentage of faculty using No/Low during a given time period, you can establish a target goal for a future date. In addition to Target Goal considerations mentioned on page 5, you may want to consider the following as well:

- **Adoption**: You can be more aggressive in your adoption target goal as that is the easiest entry point for No/Low materials
- **Adaption & Creation**: The growth rate for adaption and creation will be lower as they are more time intensive
- **Prioritization:** Will your organization prioritize one format over the others?
  - If trying to increase the number of overall courses, the organization may prioritize and put efforts towards having faculty adopt No/Low Materials.
  - If the organization is interested in having faculty develop course content and unique curriculum, then they may prioritize adaptation and creation over adoption
- **Funding:** If offering grants, faculty should be paid a higher stipend for adaption and creation as they are more labor intensive.

Faculty Professional Development

Professional development opportunities can include No/Low information sessions, workshops related to evaluating Open Educational Resources (i.e. Open Education Network textbook evaluation program), community of practices, or any other opportunity in which faculty can learn more about affordable course materials.

This metric allows an institution to measure the effectiveness of its efforts to inform and educate faculty about No/Low course materials. Ideally, there would be a positive relationship between this metric and the above metric - number of faculty using No/Low materials.

Example Performance Metric: By 2025, the number of faculty participating in OER professional development opportunities will increase from X% to Y%

Decisions to be made when developing this metric
1. Define what is considered a professional development opportunity

2. Will each professional development opportunity be weighted equally?
    a. Is a semester-long community of practice which requires a 8 hour commitment (four 1 hour monthly discussions and 4 hours of reading preparation) equivalent to a one hour information session about No/Low materials?

3. What is the culture for professional development at your institution?
    a. Do faculty take advantage of and participate in professional development opportunities?
    b. Does the institution offer many professional development opportunities? Are No/Low programs competing against other professional development opportunities?

4. What is a realistic expectation of the number of professional development opportunities that No/Low advocates can offer during an academic year?

Establishing Baseline data

Calculating baseline data (Number of faculty participating in No/Low Professional Development programs)

Example: The following No/Low professional development opportunities were offered:

Presentation introducing faculty to No/Low resources	1 hour	30 participants
Workshop on locating No/Low resources	1 hour	25 participants
Workshop on evaluating No/Low resources	3 hours	15 participants
Community of practice	8 hours	10 participants

Option 1). All professional development programs are weighted equally.
Formula: Total number of faculty who attended a No/Low professional development opportunities offered in a given time period. **80 participants**

Option 2). Professional development opportunities are not weighted equally
An institution could opt to measure time spent by faculty in No/Low professional development opportunities.

Note: If this option is considered, the metric should be rewritten to: By 2025, the number of hours faculty spent participating in OER professional development opportunities will increase from X% to Y%

Formula: Calculate the number of hours faculty spent in No/Low professional development

Workshop	Length	# of Participants	Total Hours
Introduction workshop	1 hour	30	30
Locating workshop	1 hour	25	25
Evaluating Workshop	3 hours	15	45
Community of Practice	8 hours	10	80
Total: **4 workshops**	**13**	**80**	**180**

Establishing a Target Goal:

Considerations:

Once you have the baseline data for faculty (or faculty hours spent) participating in No/Low professional development during a given period of time, you can establish a target goal for a future date. In addition to Target Goal considerations mentioned on page 5, you may want to consider the following as well:

- Offering an equivalent number of workshops or workshop hours each year during the measurement period

Measuring Perceptions

Faculty Perceptions

Assessing student perceptions can be done by using satisfaction surveys or focus groups.

Quality of No/Low Materials

Example Performance Metric: The number of faculty who perceive the quality of Open Educational Resources to be comparable to or better than commercial textbooks will increase from X% to Y%.

Perceived Student Engagement

Example Performance Metric: The number of faculty who perceive increased student engagement as a result of using No/Low course materials will increase from X% to Y%.

Decisions to be made when surveying faculty

1. Will surveys or focus groups be used
   a. Surveys will likely result in more responses and are less time consuming to administer.
   b. Focus groups will yield a smaller response but may provide more indepth information.

2. Design and test your data collection instrument
   a. Sample surveys: http://openedgroup.org/toolkit

3. Who will administer the survey?
   a. Institutional Research Planning Office
   b. Open Education Committee

4. Data collection considerations
   a. How frequently will you collect this data
   b. How broadly will this data be collected
      i. Random sample of faculty
      ii. Solicit all faculty to participate

Establishing Baseline data

The process for establishing baseline data is basically the same for any type of perception question. Below is an example that addresses faculty perception of quality of No/Low materials in comparison to commercial resources.

Example Survey Question & responses
Survey Year 1: The quality of OER when compared with traditional, proprietary materials is usually. (50 responses)

	Significantly worse	Slightly Worse	About the Same	Slightly Better	Significantly Better
Responses	8	15	20	5	2
	16%	30%	40%	10%	4%

Step 1. Calculate the percentages for faculty responses to questions

Option Step. If you collected demographic data, you could run analysis based on demographics (i.e. discipline, faculty rank, etc.) For more information on running this type of analysis, please consult *Guidebook to Research on Open Educational Resources Adoption* by Hilton III, Wiley, Fischer, and Nyland

Establishing a Target Goal:

Considerations:
- What efforts are planned to address those faculty with an inferior perception of No/Low materials. Perceptions won't likely change if there is not an intervention.
  - Are there opportunities for faculty to participate in an evaluation project (ex. OEN textbook reviews project)
  - Can a librarian provide a comparable No/Low material for a faculty member to review to determine differences in quality

- Do you know why a faculty member perceives No/Low to be inferior? (NOTE: you would need to ask that question in the survey. The example question above only asks for perception and not why they have that perception.
  - Are there opportunities to address their concerns?

- Be realistic about improvements in perceptions. You are unlikely to get 100% into the comparable or above category
  - In the example 54% of faculty found the quality of No/Low to be comparable or better than commercial resources. That leaves 46% of faculty who have a perception that No/Low materials are of inferior quality.
  - As well some faculty in the comparable or above categories could drop into the inferior category if they have a bad experience.

Student Perceptions

Like faculty perception metrics, assessing student perceptions can be done by using satisfaction surveys or focus groups. The process of establishing baseline data is similar to what is described above in the faculty perceptions section.

Satisfaction:

1. Example Performance Metric: Students are highly satisfied with ease of access to No/Low course materials.

Perceived Student Learning

Example Performance Metric: Students believe they learned as much or more from an open educational resource than a traditional textbook.

Decisions to be made when gathering student perceptions:

1. Will surveys or focus groups be used?
    a. Surveys will likely result in more responses and are less time consuming to administer.
    b. Focus groups will yield a smaller response but may provide more in-depth information.

2. Design and test your data collection instrument
    a. Sample surveys: http://openedgroup.org/toolkit
    b. Fitchburg State University Student Satisfaction with OER Survey

3. Who will administer the survey
    a. Faculty - to send surveys at the end of the course. Students will be able to address their experience specific to the course
    b. Student Government Association -who can send to the student body. May reach a broader audience but not all students will have taken a course using No/Low materials.

4. Data collection considerations
    a. How frequently will you collect this data?
    b. How broadly will this data be collected?
        i. Survey students in every No/Low course every semester
        ii. Sampling of No/Low courses each semester

Establishing Baseline data

The initial round of surveys or focus groups will serve as the baseline data. Calculate the percentage of students who are either satisfied or highly satisfied by the perception metric (ease of use, perceived learning, etc.)

Establishing a Target Goal:

There is no increased target goal set for student perceptions. Rather you would monitor the results to see whether there are fluctuations in student perceptions. The results will likely be consistent but if significant increases or decreases appear, you would want to explore potential causes.