

# Assessment *in* Practice

## Using a Heat Map to Visualize Academic Assessment Across the College

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### OVERVIEW OF ACADEMIC ASSESSMENT AT NCC

Nassau Community College (NCC) has a long-standing practice of submitting “Annual Departmental Assessment Reports,” which detail each academic department’s efforts at assessing student learning outcomes. Guidelines for this report were developed based on Standard 14 of the “Standards of Accreditation and Requirements of Affiliation (Middle States Commission on Higher Education, 2006)” and have since been updated using the 2015 Middle States standards.

At NCC, every department designates a faculty member as the Departmental Assessment Coordinator. This person attends monthly meetings of the college-wide Academic Senate Assessment Committee, and develops assessment plans including measures, timing, data collection, and curriculum mapping. The Departmental Assessment Coordinator also writes an Annual Departmental Assessment Report (ADAR), following guidelines (Appendix) that were developed by the Senate Assessment Committee and the Associate Vice President of Academic Assessment and Program review. These ADARs are submitted to the Office of Academic Assessment and Program Review by June 1 of every year. Over the summer, faculty readers review these reports and offer suggestions for improvement or offer commendations to departments based on how well they responded to the guidelines.

Up until 2016, the suggestions and commendations by the faculty reviewers were summarized by the AVP of Academic Assessment and Program Review, who would then provide feedback for each department. In the feedback, departments would be given suggestions for improvement and an

overall rating of how well they were doing with regard to academic assessment. Departments could earn the following ratings, based on the faculty reader and the AVP's review:

- **Exemplary:** All or most course and program workspaces (in our software program) are complete and active. Report clearly describes department assessment activities that are a model of effectiveness and/or innovation at both the course and program levels, as well as use of assessment results in planning for improvement of outcomes.
- **Satisfactory:** Workspaces are complete and active for courses to be assessed in the current year; if no, alternative data collection is presented. Report clearly describes adequate department assessment activities at both the course and program levels.
- **Unsatisfactory/Response Required:** Many workspaces are not complete or active. Report is missing one or more required elements and/or appears to describe inadequate department assessment activities at the course and/or program levels. This review outcome requires the department to respond, in writing, to comments and concerns, by providing corrections, clarifications and/or additional information within 60 days of receiving the review.

*The Assessment Fellows used the heat map to identify the issues that were most challenging to each department. They helped departments analyze their assessment findings and create plans for continuous improvement.*

While individual academic departments and their deans received this feedback, we had no way to document how the entire college was doing in terms of academic assessment. We knew that some departments were doing excellent work, while others were struggling, and we continued to strive for improvement every year by asking departments to address their deficiencies.

Our 2016 accreditation visit by MSCHE made it clear that our efforts at academic assessment were falling short and they needed to be improved immediately, but we still had no way to identify our most serious assessment challenges.

## THE HEAT MAP

After failing Standard 14 in our 2016 MSCHE Accreditation review, I went back to the Summer 2016 faculty reader reports to see if I could find common themes in the challenges that academic departments were facing. Using the guidelines provided to departments for their annual assessment reports, I created a rating system for each standard and recorded the score in a spreadsheet:

- 0 = No evidence provided for the standard
- 1 = Evidence submitted, but not adequate to address the standard
- 2 = Evidence shows an effort to address the standard, but improvements are needed
- 3 = Evidence that was provided meets the standard
- 4 = Evidence provided exceeds the standard.

I then color-coded a spreadsheet to create a visual display of our “hot” and “cool” zones for assessment practices. Red, yellow and orange, corresponding to ratings of 0, 1 and 2 respectively, indicated “hot zones” that required immediate

attention. Green and blue cells, corresponding to 3 or 4, respectively, indicated “cool zones,” where we were meeting MSCHE standards. What we discovered very quickly was that about 30% of our departments submitted little or no evidence of addressing many of the assessment standards during the 2015-2016 academic year. Among the departments that were submitting evidence of academic assessment, the most serious problem was a lack of analysis and action planning (closing the loop).

Assessment Plan	Assessment Committee	Curriculum Map	Annual Assessment Overview	Program/Department Level Outcomes and Measures	Provide results of Program Level Learning Assessments	Course Level Learning Assessment	Department level Quantitative analysis	Course Level Quantitative Assessment Results	Learning Outcomes Evaluation	Departmental Assessment Issues and Recommendations	Closing the Loop (from previous assessments)	Course level Quantitative analysis	Program level Quantitative analysis
0	0	0	0	0	0	0	NA	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	1	0	0	0	0	0	0	0	0
0	2	4	0	1	1	0	0	1	0	0	0	0	0
4	0	1	3	0	0	0	0	0	1	0	0	0	1
2	0	4	0	3	0	0	0	0	1	0	0	0	0
3	0	0	2	0	2	1	1	1	1	0	0	1	1
4	4	1	2	0	1	0	1	0	1	1	1	1	1
4	4	1	2	2	1	0	NA	0	2	0	0	0	1
4	0	4	4	1	0	1	0	2	2	3	2	2	0
0	0	4	0	3	4	2	NA	NA	2	0	3	2	3
1	3	4	0	1	4	1	2	4	0	4	2	0	NA
4	0	4	1	2	3	1	2	2	3	3	0	2	NA
4	4	2	3	4	2	2	2	2	2	2	2	2	2
2	4	0	4	4	4	2	2	3	2	3	2	0	NA
4	4	4	4	4	0	4	NA	0	2	4	1	4	0
4	4	3	4	3	4	3	NA	3	2	2	2	2	NA
4	4	4	4	2	2	3	NA	3	4	3	3	3	0
4	4	0	4	4	4	3	NA	4	2	1	4	3	2
4	4	4	4	3	4	3	NA	3	3	4	2	3	2
3	4	3	4	4	4	3	3	3	3	4	4	3	2
4	3	2	4	3	3	4	2	3	4	4	4	4	3
4	4	0	4	4	NA	3	3	NA	3	4	4	4	NA
4	4	3	3	4	3	2	4	3	4	3	3	4	4
4	4	3	4	4	4	4	3	3	4	4	4	4	2
4	4	4	4	4	4	4	3	4	3	4	4	4	NA
4	4	4	4	4	4	4	4	NA	3	4	4	4	NA
4	4	4	4	4	4	4	4	4	4	3	4	4	4
4	4	4	4	4	4	4	NA	4	4	4	4	4	NA
4	4	4	4	4	NA	4	4	4	4	4	4	4	NA
4	4	4	4	4	4	4	NA	NA	4	4	4	4	4

Figure 1. 2015-2016 Assessment of Annual Departmental Assessment Activities.

This provided us with the focus we needed as we addressed our accreditation challenges. In the 2016-2017 academic year, NCC began a new initiative to improve the state of assessment at our college. We called this the “Assessment Fellows Program.” Six faculty members who were leaders in the Academic Senate Assessment Committee and skilled in assessment were given reassigned time to work as assessment mentors for the academic departments. They met with department leaders and assessment coordinators as often as needed to help them learn how to create an effective and efficient system of academic assessment that will help them work toward continuous improvement. The Assessment Fellows used the heat map to identify the issues that were most challenging to each department. Among other things, they provided education on how to write student learning outcomes, develop appropriate measures, and plan for assessment over a series of years. They helped departments analyze their assessment findings and create plans for continuous improvement. The results of just four months of work with the Assessment Fellows were dramatic:

Assessment Plan	Assessment Committee	Curriculum Map	Annual Assessment Overview	Dept/Program Outcomes Defined (if applicable) Fill in one form per	Outcomes Findings	Quantitative analysis	Program level Qualitative analysis	Course/ Gen Ed Level Outcomes Defined	Course Level Outcome Findings	Course level Quantitative analysis	Course level Qualitative analysis	Response to prior recommendations	Action Plan/Next Steps/Closing the Loop
4	3	2	3	3	2	2	2	3	4	3	4		
3	3	mixed	3	3	4	4	3	3	2	4	3	1	mixed
4	3	4	4	3	2	4	3	3	2	2	3	1	mixed
3	3		4	2	3	3	3	3	3	4	2	3	3
4	4	4	4	4	3	3	2	4	4	1	3	1	4
4	4	1	4	3	3	4	3	2	3	4	3	2	2
4	3	3	4	3	3	4	3	3	3	4	3	4	4
4	3	4	4	4	3	4	3	3	4	4	4	3	3
mixed	4	4	4	3	3	4	3	3	3	4	3	2	3
4	3	mixed	mixed	3	4	4	3	3	3	3	3	mixed	mixed
4	3	1	4	3	4	4	3	4	4	4	4	1	3
4	4	4	4	3	mixed	3	3	4	3	3	4	mixed	3
4	3	4	4	3	3	4	3	3	3	4	3	4	4
4	3	4	4	3	4	4	3	3	4	4	3	4	3
4	3	4	4	4	4	4	3	3	4	4	3	1	3
4	4	4	4	4	4	4	3	3	4	4	3	3	3
4	4		4	4	2	3	4	4		4	2	3	4
4	3	4	4	3	4	4	3	3	4	4	3	2	mixed
4	4	4	4	3	4	4	3	3	4	4	3	3	3
4	3	4	4	3	4	4	3	3	4	4	3	4	4
4	3	4	4	3	4	4	3	3	4	4	3	mixed	3
4	4	3	4	3	4	4		3	4	4	3	3	4
4	3	4	4	4	4	4	3	3	4	4	3	3	4
4	4	4	4	4	4	4	3	4	4	4	3	1	3
4	4	4	4	4	4	4	1	4	4	4	3	4	4
4	4	4	4	4	3	4	4	4	4	4	4	4	4
4	4	4	4	4	4	4	3	4	4	4	3	4	4
4	4	4	4	4	4	4	4	4	4	4	3	4	4
4	4	4	4	4	4	4	4	4	4	4	3	4	4

Figure 2. 2016-2017 Assessment of Annual Departmental Assessment Activities.

Clearly, everyone was trying very hard and they were invested in securing accreditation as quickly as possible. The results of the 2016-2017 review of ADARs demonstrated a tremendous improvement in assessment practices. Another big change that we made was in our feedback to the departments. Rather than a blind review by a faculty reader, the annual reports were reviewed by each department's Assessment Fellow and then by a second Assessment Fellow. When raters did not agree on a rating, they worked to create a consensus. From this consensus-building exercise, we were able to refine our ADAR assessment rubric. Each reviewer also made comments and recommendations about each standard. We provided feedback to the departments for every standard that was not rated a 3 or 4.

There continued to be trouble spots, based on our review. There were mixed attempts at closing the loop (creating action plans). Departments with several discrete programs often had some programs that were doing very well while others slipped through the cracks. This led us to create a more detailed analysis in the following academic year. In the 2017-2018 academic year, we focused more on individual programs rather than focusing just on departmental assessment activities, hoping to get consistent performance across all programs. This produced a much longer heat map, but we also eliminated some of the standards to help focus assessment efforts on the most critical issues. The resulting heat map revealed where our discrete programs were most lacking:

Mission Statement	Curriculum Map	Dept or Program Outcomes	Gen Ed or ILO Outcomes	Direct Measures	Data Source	Target	Key Personnel/Timeline	Findings	Analysis	Recommendations
4	1	4	2	4	3	3	4	4	2	2
4	1	4	1	4	3	3	3	4	2	2
1	1	4	2	4	3	3	3	4	2	2
4	1	4	1	4	3	3	3	4	2	2
4	4	4	4	4	2	2	2	4	4	3
4	3	4	4	3	4	2	3	3	1	1
4	1	1	1	1	1	1	1	1	1	1
4	2	3	3	3	4	2	4	3	3	3
4	1	4	4	4	4	4	4	4	3	2
4	3	4	4	4	4	4	4	3	2	2
4	3	3	3	4	3	3	3	4	1	1
4	3	4	3	3	1	4	4	2	2	2
4	3	4	3	4	4	4	4	4	3	3
4	2	4	2	4	4	3	4	3	2	3
4	3	4	3	3	3	3	4	3	3	2
1	1	3	3							
4	3	4	2	3	1	3	4	2	1	2
4	4	4	4	3	3	3	4	3	1	3
3	3	4	4	3	3	3	4	3	3	2
4	4	4	4	3	3	3		3	1	2
4	3	2	4	3	4	2	3	4	2	3
4	4	4	4	4	4	4	3	4	2	4
4	3	4	4	4	4	3	3	4	3	3
4	3	4	4	4	3	4	4	4	3	3
4	3	4	3	3	1	3	4	4	1	2
3	3	4	3	3	1	3	4	4	3	3
	4	4	4	3		3	4	4	3	
4	3	4	4	3	4	4	3	4	4	3
4	1	4	4	4	4	4	3	4	3	3
4	4	4	4	4	4	3	4	4	4	3
4	2	2	1	1	2	1	1	1	1	1
4	3	4	1	3	4	4	4	3	1	1
4	3	3	1	2	4	4	4	4	1	1
4	3	4		3	4	4	4	3	1	1
4	3	4	4	3	4	3	4	4	2	2
4	4	4	4	4	4	4	4	4	4	4
4	1	3	3	3	4	4	4	4	2	3
4	3	4	4	3	4	4	4	4	2	2
4	1	4		4	4	4	4	4	2	3
4	4	4	4	3	4	4	3	3	2	2
4	3	4	3	2	4	4	2	4	2	2
4	3	3		2	2	4	3	4	2	1
4	2	4		2	4	4	3	3	1	1
4	2	4		2	4	4	3	4	1	1
1	1	4	2	4	3	3	3	4	2	2
4		4		4	4	4	4	3	3	4
1	1	4	4	4	2	4	4			
4	3	4	4	4	4	3	4	3	4	4
4	3	4	4	4	4	3	3	3	4	1
4	3	4	4	3	4	4	3	3	3	3
4	3	4	4	3	4	4	3	4	1	1
4	3	4	4	3	4	4	2	4	1	1
4	3	4	4	3	4	3	2			
4	3	4	4	3	4	4	3	4	1	1
3	3	3	1	3	3	4	4	4	3	4
4	3	4	1	4	4	4	4	3	3	4
4		4	2	3	4	3	3	4	3	2
4	3	4	3	3	4	3	3	1	2	2
4	3	4	3	3	1	3	3	4	2	2
4	3	4	4	4	3	3	3	4	4	4
3	3	4	4	4	4	3	4	4	4	4
4	3	3	4	4	4	3	4	4	4	3
4	4	4	4	3	4	3	4		4	3
4	4	4	4	4	4	4	4	4	3	3
4	3	4	4	3	4	3	4	3	2	2
4	3	4	2	3	4	4	3	4	4	4
4	4	4	4	4	4	4	4	4	2	3
4	4	4	4	4	4	4	4	4	4	4
4	4	4	4	4	4	4	4	4	4	4
4	4	4	4	4	4	4	4	4	4	4
4	4	4	4	4	4	4	4	4	4	4

The Heat Map has been a powerful tool for documenting where we are strong and we can show clearly the tremendous improvements we have made over the past several years.

Figure 3. 2017-2018 Assessment of Annual Departmental Assessment Activities.

The trouble spots were mainly focused around analyzing and providing evidence of using assessment to improve teaching and learning (action plans). In response to this finding, the Assessment Fellows spent more time with departments to help them understand their findings and brainstorm ways that they might use these findings to inform their plans for improving student outcomes. We also worked with departments and programs to identify and address road blocks to assessment planning. Finally, we started to look at other sources of information beyond the direct measures of student learning outcomes so that we could plan for improvements in learning outcomes in programs, departments and college-wide.

In the current academic year, we continue to review departments and discrete programs separately. We are continuing to work with departments to create plans for continuous improvement and to provide evidence that they are *using assessment to improve teaching and learning (action plans)*. We are also working with department chairs to use assessment in strategic planning.

## CONCLUSION

The Heat Map has been a very effective tool for identifying strengths and challenges in academic assessment at NCC. We have identified specific departments and programs that need extra help with academic assessment and we have begun to identify the various reasons for their challenges. We have identified college-wide challenges that need to be addressed through larger professional development initiatives. Finally, the Heat Map has been a powerful tool for documenting where we are strong and we can show clearly the tremendous improvements we have made over the past several years.

## REFERENCES:

Middle States Commission on Higher Education, 12th edition. (2006). *Characteristics of excellence in higher education: Eligibility requirements and standards for accreditation*. Philadelphia, PA: Author.

Middle States Commission on Higher Education, 13th edition. (2006). *Characteristics of excellence in higher education: Eligibility requirements and standards for accreditation*. Philadelphia, PA: Author.

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4	3	4	1	3	4	3	3	3	3	2
4	3	3	0	3	4	3	4	2	2	3
4	3	3	1	4	4	4	4	3	3	3
4	3	4	1	3	4	4	4	3	3	3
4	4	4	4	4	4	3	3	3	3	3
4	2	3	4	3	4	2	3	3	1	1
4	2	4	1	2	3	2	4	1	2	1
4	2	4	3	3	3	2	4	2	1	1
4	4	4	2	4	4	3	3	3	2	2
4	3	2	4	4	4	4	4	3	3	2
4	4	3	2	4	4	3	3	3	1	1
4	4	4	NA	4	4	3	4	4	4	4
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4	4	4	4	4	4	4	4	4	4	4
4	4	4	4	4	4	4	4	4	4	4
0	1	0	3	4	0	0	0	0	0	0
4	3	4	2	3	1	3	4	2	2	1
4	3	4	2	4	4	4	4	3	2	3
4	4	3	3	4	3	3	4	3	3	3
4	3	3	3	4	3	3	4	3	3	3
4	1	3	3	4	4	3	4	3	3	4
4	NA	4	4	4	4	4	4	4	4	4
4	3	4	4	3	3	4	4	4	2	2
4	4	2	4	4	3	4	4	3	2	2
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4	4	3	4	4	4	4	4	4	3	3
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4	3	1	0	3	4	4	4	1	1	1
4	4	4	3	4	2	3	4	4	3	2
4	4	4	4	4	4	4	4	4	4	4
4	4	3	3	3	4	4	4	4	4	3
4	3	3	4	3	4	4	4	3	3	3
4	3	3	2	4	4	4	4	3	3	3
4	3	NA	3	3	4	4	3	3	2	2
4	2	4	NA	2	4	3	2	2	2	2
4	3	3	NA	2	4	3	3	4	2	2
4	2	2	NA	2	4	2	2	NA	NA	NA
4	2	3	NA	2	3	3	2	2	NA	NA
4	4	4	4	4	4	4	4	4	4	4
4	4	4	4	4	4	4	4	4	4	4
4	4	4	4	4	4	4	4	4	4	4
4	4	4	4	4	4	4	4	4	4	4
4	3	1	2	2	4	2	2	2	2	2
4	3	4	4	3	4	4	4	4	3	4
4	3	4	4	4	4	4	4	4	4	4
4	3	4	4	4	4	4	4	4	1	4
4	3	4	1	4	4	4	4	4	4	4
4	3	4	4	4	4	4	4	4	4	4
4	4	3	1	4	4	4	4	4	3	3
4	3	3	3	4	3	4	3	3	4	4
4	4	4	1	4	4	4	4	4	4	4
4	4	4	4	4	4	4	4	4	4	4
4	4	4	4	4	4	4	4	4	4	4
4	4	4	4	4	4	4	4	4	4	4
4	4	3	4	4	4	4	4	4	4	4
4	4	4	2	3	4	3	2	2	2	2
4	3	3	3	4	4	4	4	4	3	4
4	4	4	3	4	4	4	4	3	3	3
4	4	4	4	4	4	4	4	4	4	4
4	4	4	4	4	4	4	4	4	4	4
4	4	4	4	4	4	4	4	4	4	4
4	4	4	4	4	4	4	4	4	4	4
4	4	4	4	4	4	4	4	4	4	4
4	4	4	4	4	4	4	4	4	4	4

Figure 4. 2018-2019 Assessment of Annual Departmental Assessment Activities.

## Please Cite As:

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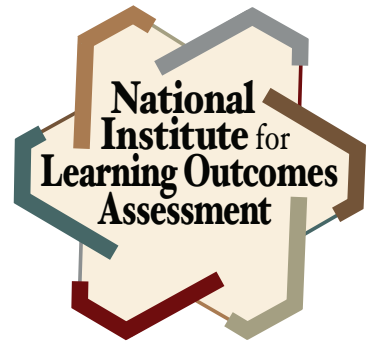
## About NILOA

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The National Institute for Learning Outcomes Assessment (NILOA) was established in December 2008, and is co-located at the University of Illinois and Indiana University.

The NILOA website contains free assessment resources and can be found at <http://www.learningoutcomesassessment.org>.

The NILOA research team has scanned institutional websites, surveyed chief academic officers, and commissioned a series of occasional papers.



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