HAROLD WASHINGTON COLLEGE

THE ASSESSMENT TIMES

NEWSLETTER OF THE ASSESSMENT COMMITTEE

SPRING, 2016

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FROM THE CHAIR

Teaching, Learning, and Assessment: A morning dialogue designed by faculty for faculty

On Friday April 8, 2016 the Assessment Committee, in partnership with Faculty Council and CAST, facilitated a morning of professional development. This was a mandatory meeting for full-time faculty scheduled by Academic Affairs. The planning, content, and facilitation of the day were all done by faculty to create a forum in which to discuss the teaching process, and how to improve student learning. Funding was secured by Academic Affairs to enable adjunct faculty to be compensated for their attendance and over sixty-five of them did attend. I was very happy to see so many adjunct and full-time faculty members talking together about things that are important to all of us.

We started the day with a brief overview of assessment with a reminder that we can't assess everything. We always start the assessment conversation with what is possible to assess, and what is possible for faculty to see and document in terms of student learning. This can help a group of faculty to focus on something that is observable in student learning and also can provide a practical starting place. We then discussed the different levels of assessment:

Assessment of student learning in general education is what a student should be able to do upon completion of any degree offered at HWC. (Continued on page 2)

Carrie Nepstad, Assessment Committee Chair, Applied Sciences

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We have seven general education student learning outcomes at HWC: 1) critical thinking; 2) effective communication; 3) human diversity; 4) humanities and the arts; 5) natural sciences, 6) quantitative reasoning; and 7) social science. They can be found on our website

http://goo.gl/jVT3A7

When we assess general education outcomes at HWC, we collect data from a representative sample of the student population. When the results are analyzed, we take a look at how many courses students have completed. This helps us think about trends at HWC and explore, in a snapshot, how they are meeting the big learning goals we have set for all students who complete a degree with us. It doesn't tell us specifically about a particular student but it gives the faculty a sense of how students are doing in general.

Assessment of student learning at the program level is what a student should be able to do upon completion of a specific certificate or degree offered at HWC.

Various programs at HWC have written program level student learning outcomes. These outcomes should be the big themes that are important to a particular program and should be linked to (general education outcomes, or course outcomes?)

For a more specific look at student learning, we can focus at the unit level. Many departments have unit level assessment projects running right now that either focus on multiple sections of one course or a sequence of courses. This is helpful at the departmental level because we can being to see how students are learning based on the student learning outcomes of specific courses. When a group of faculty from the same department explore data from unit assessment they can make decisions together about curricular changes.

Carrie Nepstad, Applied Sciences, Committee Chair

Social Science Department Unit Level Assessment Report Spring 2016

History Discipline

The unit-level assessment project for the Social Science Department was introduced to the department's faculty via email in early February 2016. It should be noted that the SSD encompasses six disciplines: Anthropology, History Economics, Political Science, Psychology, and Sociology. After consultation with Dr. Domenico Ferri, chair of the department, it was decided to start the assessment with History. Because several fields of history are taught (U.S., African American, Latin American, African, and World), the challenge was to create an assessment tool and rubric that would apply to all history courses.

It was decided that the best way to proceed was to form a small informal steering committee composed of faculty representing some of the different fields of history taught at HWC. Two faculty members, Nick Ceh (World History) and Stephen Burnett (U.S. History) volunteered to serve on the committee with the Unit Level Liaison, Janette Gayle. The committee met once per week to brainstorm ideas and to put together and implement the project. Minutes from the meetings were emailed to History faculty members in order to keep them abreast of the committee's progress.

Janette Gayle, Social Sciences

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Loretta Visomirskis, English, Speech & Theater

Stage One – Outcome Definition

Adapting an assessment tool developed by history faculty at four-year colleges, the steering committee identified five essential skills we would want students to be able to demonstrate at the end of any history course: The ability to (1) craft a thesis statement; (2) use primary and secondary sources to support an argument (3) correctly cite primary and secondary sources; (4) understand and identify the factors that cause change and continuity over time; (5) demonstrate knowledge of specific historical content and context.

Stage Two – Assessment Research and Design

Focusing on the first three skills, the steering committee created a rubric to determine measureable outcomes based on written work created by students in the context of their courses. The committee is in the process of refining the rubric.

Stage Three – Pilot Assessment Tools and Processes

We plan to launch the pilot project in the second half of the spring 2016 semester and will use the rubric to assess students' final essays in two sections of each of the following courses:

History 111 (US History Survey I)

History 112 (US History Survey II)

History 115 (African American History Survey II)

The prospective plan for fall 2016 is two-fold: (1) to administer the assessment to classes at the beginning and at the end of the semester to gauge students' progress. (2) To expand the skills measured to include all five identified by the steering committee as essential.

Janette Gayle, Social Sciences

Unit-Level Assessment in English, Speech & Theater

The English department has a long tradition of both faculty commitment to assessment, and enacting this commitment on a departmental level. Some might say our Exit Essay is legendary in these halls, but what isn't as well known is that our own Professor Moody keeps detailed department-wide records of each student's exit essay results, course grades, and final outcomes (as in, one can pass the exit essay but not the class, and vice versa.) These records manifest as a detailed statistical report and analysis of departmental pass/fail rates and final grades each semester, broken down by class level, to which every faculty member in our department – full and part time alike – is given full access. Yes, in a department of hundreds of sections of composition and upwards of 80 faculty, one person handles the data collection and reporting of every single outcome, rendering a valuable formative as well as summative report.

In addition to exit testing, we have an equally strong tradition of semi-annual norming; using our departmental essay-scoring rubric, we meet once per semester, read through several sample essays at each level of composition, and score them according to the rubric. If there is disagreement on where to place an essay, a spirited discussion ensues. The debates, justifications, explanations, and insights that arise in our norming sessions provide valuable professional development for all of us, as well as serving as the foundation for department-wide participation in scoring exit essays. Those of us who read and score placement essays to fulfill our registration duties have an additional norming session each semester, and hundreds of additional opportunities to practice assessing student writing.

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Our culture of assessment is one of the things I cherish about Harold Washington, so I was very happy to accept the position as Unit-Level Liaison this spring. With such a stellar tradition of assessment, though, what on earth could I contribute? Working with the chairs, executive committee, and Unit-Level Chair, we selected the only composition class that doesn't participate in a department-wide assessment, such as the exit essay: English 102. This is the "research paper" class, in which students ultimately compose an 8-10 page, primary-source-based, academic argument. Although we have a departmental rubric and final outcome statistics are meticulously recorded, faculty design their own criteria for course assignments and final research paper grades. To better understand how English 102 faculty assess research writing in their classes, what aspects of the paper they value quantitatively and qualitatively, I embarked upon a study focused on the assessment methods for English 102 final papers.

The project began by requesting sample rubrics used to assess the final research argument from current and recent-past instructors of English 102. Some instructors use the department rubric, some use an alternative rubric they've developed, and some use both in combination, while a fourth category involves instructors who use a more qualitative tool such as a checklist, table, or bulleted list. The categories and subcategories that faculty assign, as well as point or percentage value when applicable, are being collected with this data. A numerical and narrative report will ultimately be shared with the department and our Executive Committee.

One of the best outcomes of the project so far is that an equal number of adjunct professors and full-time faculty have participated. Our department is comprised of over 50 adjunct instructors who teach many sections of English 102, so their input is vital to get a true picture of our whole department; the adjunct professors' willingness to share their materials and respond to my repeated emails has been most generous.

English 102 represents the last in a sequence of required composition courses and as such, can be considered a final step in the backwards design of our core offerings. Collecting data about what we as a department assess and value in English 102 will hopefully be a catalyst for discussion about the strengths and successes of the course, as well as any areas we may want to review. This data also provides potential for future analysis in terms of how our English 102 students are entering and exiting this level of composition. As a department, we can begin to add data to the ongoing discussion about what aspects of the course our students have mastered prior to English 102, are able to master in the 16 weeks, and continue to find challenging.

The idea of finding individual, relevant ways to "close the loop" based on assessment results is a vital, perhaps the most vital, step in any assessment; the project has already enriched my own teaching, and I hope it will equally enrich the department by providing a window into a vitally important,

Aigerim Bizhanova, Biology

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but comparatively isolated, English composition core course.

Amy Rosenquist, English, Speech & Theater

General Education Goals in the Natural Sciences

In Fall 2015, Harold Washington College Assessment Committee assessed the college's general education goal of understanding the Natural Sciences. Over 10% of the college body was assessed and their scores on the assessment were compared with their attitudes toward the sciences as well as their course history. Using statistical and analytic techniques several correlations were discovered and are being explored.

One of the more interesting findings was that when looking at a student's class history there was always an underlying assumption that the more courses a student took the better they would perform on an assessment tool. However, some of the preliminary results from this assessment are showing this may not be the case, and that some classes are negatively correlated with performance. These courses immediately appear to be pre-credit courses, signaling that students requiring remediation in English and Mathematics may also not be achieving the same learning gains as other students in other disciplines.

As 95% of students entering the City Colleges of Chicago require at least one course in remediation this is an issue that is not just facing the Departments of English and Mathematics, but the entire college; and if it is going to be solved, will most likely require the efforts of the entire college.

Phil Vargas, Physical Sciences

Unit-Level Assessment in Business

The Business Department at Harold Washington College wanted to accomplish at least three things by investigating the abilities of students prior to entering a pathway of study: first of all to begin base lining student performance in a way that could later be contrasted with performances of transferring/graduating students to help demonstrate programmatic efficacy; secondly, to help alter pathway curriculum based on any trends and issues perceived; and finally to be an aid in teacher preparation prior to the start of classwork in the next sequence of classes. Anecdotally, instructors have observed that students enter into business pathways with a wide variation of knowledge and abilities. The goal was to provide a way to systematically and efficiently catalog student capabilities which could be aggregated and collectivized as needed.

The department started by first holding discussions with full-time faculty about what a student at Harold Washington

Erica McCormack, Humanities,
and Kristin Bivens, English, Speech & Theater

should ideally be able to demonstrate in terms of business knowledge and ability prior to focus on business studies. There was further discussion about the timing and format of any assessment in order to ensure that it would be timely but non-obtrusive to the student's academic pursuits. At the same time, district level and national level examples of similar assessment efforts were sought to look for any best practices that could also be adopted. Out of the research and conversations, an assessment methodology was proposed and vetted with faculty.

It was determined that the best time to approach students was at the end of three courses which were common to the beginning of all business pathways: Business 111 – Introduction to Business, Business 141 – Business Mathematics, and Business 180 - Fundamentals of Accounting. Comments from instructors were then reconciled with the course student learning outcomes, and specific questions related to them were refined for assemblage in a test question database that would be used to administer the assessment via Blackboard.

The chosen format was to ask 40 multiple choice questions in 40 minutes. This format was selected so that students would be best placed to score well only if such knowledge was deeply held. In addition to selecting the potential answers, students would also be allowed the option to answer "I do not know." Both qualitative and quantitative

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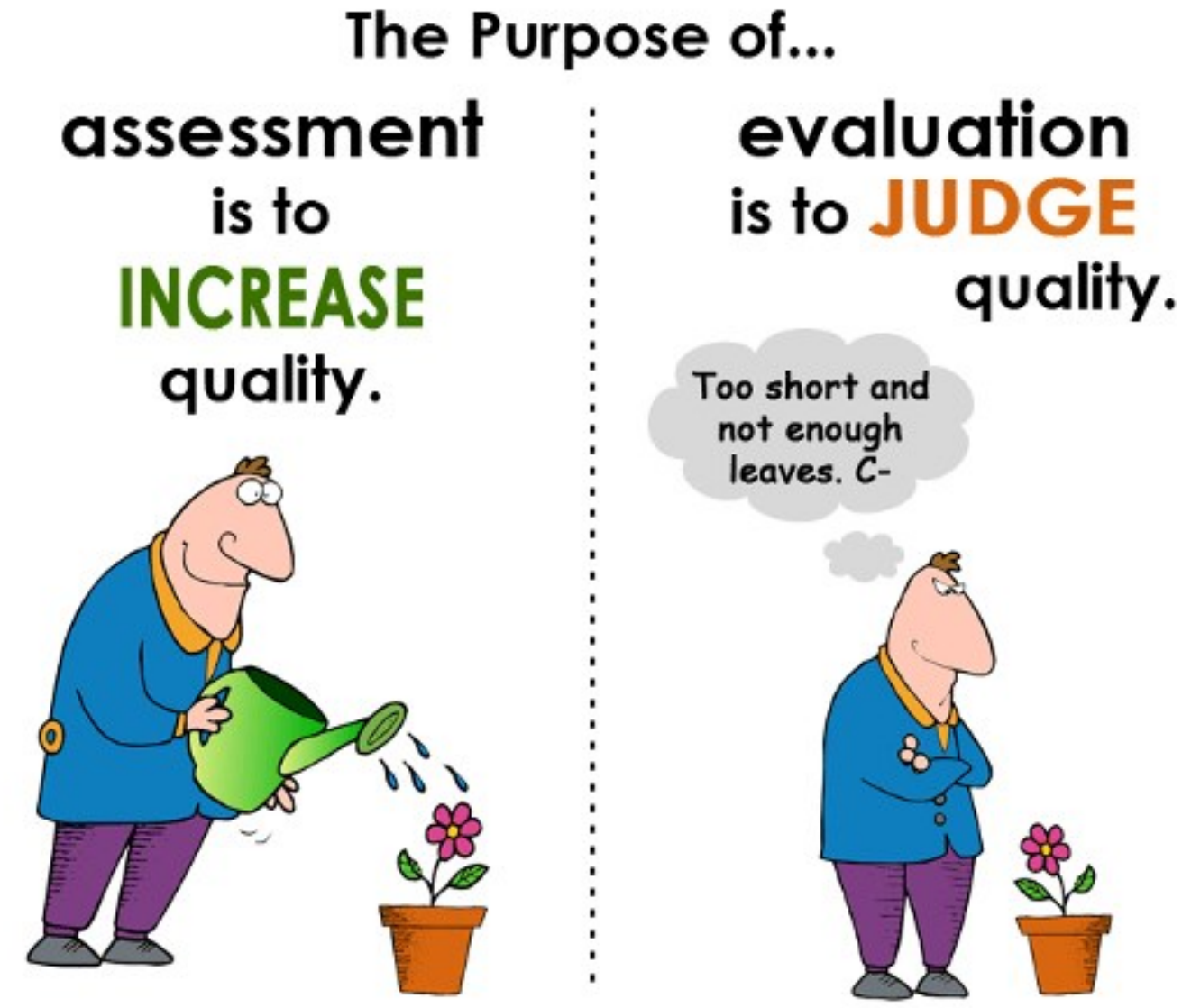
questions were asked (e.g. If Mary invests $10,000 in a business, has expenses of $12,000 and revenues of $22,000, what was her profit margin? What is the ultimate goal of a business corporation?). These same questions would then be asked of the same students later upon transferring/ graduating. Each pathway would then also supplement the forty questions with a part two of the assessment to add additional concepts crucial to the pathway. This is to be explored as additional assessment work to be completed in future semesters.

The Blackboard assessment will be administered in the two weeks prior to the end of the semester so that the assessments could also serve as a general study tool for the students preparing for finals. The concepts captured in the assessment should ideally reinforce the same concepts covered on the finals. The assessment would be provided to all sections of Business 111, Business 141, and Business 180 along with an instructor explanation of how to administer the assessment and an encouragement for teachers to help ensure high participation rates through class participation credit or other appropriate means. Students who do not take the assessment in one of the core classes could later be targeted as needed through a separate campaign for voluntary participation.

The department expects to perform the first assessment this spring and use the first iteration to inform future refinements as well as design of the pathway specific exit assessments. The information will also be provided to fall business instructors in summary forms on a class by class basis to aid in



Assessment vs Evaluation. n.d. Kristen McNally. TrainingRx, Web. 19 Apr. 2016. <http://trainingrx.org/assessment-vs-evaluation-whats-the-diff>

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class preparation. Finally, any broad insights will be used to inform pathway level discussion.

Bral Spright, Business

Assessment of Learning in the Fine Arts

What follows is intended to be understood as a cautionary tale: a lesson in what not to do when constructing an assessment tool.

In the Fall 2015 semester, the Humanities department elected to run a pilot assessment in four sections of our three art history courses (FIN ART 105, 107, and 108). After discussing the SLOs that extend across those courses, faculty agreed that the outcome we considered most important to art history students' success had to do with analysis: comparing and contrasting works of art. However, before selecting a couple of artworks at random or based on our educated guesses about what would create a compelling compare/contrast opportunity for students and running an assessment purely focused on students' analysis skills, we decided that we wanted to have a better snapshot of the mental frameworks FIN ART students brought to any experience of looking at art.

We believed that with a more holistic picture of what runs through students' heads when they're confronted with a new artwork on the page or in a museum or gallery setting, we could do a better job selecting artifacts to include in future compare/contrast assessments. So for our pilot assessment, the two full-time and one part-time instructor opted to treat it as an information-gathering mission in order to get information that could later be used to construct a better, more streamlined analysis assessment.

That vision led to this semester, which has been focused on sorting through the complex information gathered in the fall. The pilot assessment that we ran was incredibly bulky for two reasons: first, because we gathered qualitative information and are now using a rubric to turn it into quantitative information; but it is also bulky because we asked students to offer quick responses about a wide variety of artworks. To be precise: we showed 13 artworks, all of which the three faculty members ensured were not specifically discussed in any of our courses but which represented styles that were treated in at least two of the three courses; and students had two minutes on each one to offer some initial thoughts (keywords) about formal elements, subject matter, medium, and historical period, culture, and style. We wanted students to give us some insight into what they would think about a new artwork and how they would draw on their previous exposure to art historical periods and styles to notice connections in subject matter, formal elements, and/or media.

As the unit-level liaison, I had created a very basic rubric last semester, but I always intended to revise it once the data had been collected and we had a better sense of what students could reasonably accomplish in a two-minute window. The first step this semester was reading through the student submissions to get an overview of what they had to say, then revising the rubrics based on what appeared to be feasible in the allotted time period. Rubrics is in the plural because each of the 13 works of art or architecture now has its own descriptive rubric to reveal whether, for each dimension (formal elements, subject matter, etc.) students were "accurate with elaboration," "partially accurate or vague," "inaccurate," or if they left it blank.

The construction of these 13 separate rubrics took several weeks, and now I'm entering the data into a Google Form that reflects the rubric structure. It is slow-moving work due to how long and elaborate our tool was. It has been made even slower-going due to the fact that midway through entering the data into the Google form, I decided that there needed to be two separate options for marking when students did not enter a key piece of information. Sometimes sections were left blank not just because students ran out of time or ideas but because students realized and indicated that a style of art they were being asked to describe was from outside the context of the course they had taken (this was one of the problems that resulted from trying to assess three courses that cover some overlapping but largely separate topics with the same tool when a student does not have to take them in a particular sequence).

I believed it was important to try to capture this metacognitive information. I added a separate achievement column to reveal when a student was able to recognize that an artwork they were shown represented a style from beyond their course exposure and to differentiate those blank responses from the many other blank responses that were due to not knowing or not having enough time to enter information. The problem is that once I revised the Google form to reflect that change, I had to begin entering data again, and each individual test requires 147 pieces of data to be submitted. It takes between 15 and 30 minutes to enter each student's submission into the Google form, depending on how much detail the student provided.

When we created the tool to give our students, we did not realize exactly how complicated it would be for us to enter and analyze the data. I think that when I was planning my unit assessment, I knew that I could ask our data analyst for advice, but I also knew his services were required by people working on many projects and decided I'd wait to get help once I had the data. That was a mistake. Now that our committee has two data analysts, I feel more comfortable engaging their expertise in the planning process and will hopefully avoid making these foreseeable mistakes again.

If I can save my fellow faculty from making these mistakes

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themselves now, I hope you can learn from my error. We wanted to assess too much all at once. Even though we called it a "preliminary" or "pilot" assessment, it doesn't change the fact that it is massive, and we would have been better served focusing on a smaller question and gathering data that doesn't take a full semester or more just to enter into a Google Form.

Erica McCormack, Humanities

Unit-Level Assessment in Biology

This semester is the first time our department started work on unit-level assessment. Since our department offers various courses in biology, we decided to start first with assessing student learning in our two most popular courses based on student enrollment, Introductory Biology for Science majors (Biology 121) and General Education Biology (Biology 114). After consulting with the faculty in our department, we decided to assess student understanding of cellular organization.

In particular, we would like to assess if students are able to identify the main cellular components and describe their functions. Understanding the main components of a cell and their functions is one of the fundamental principles of molecular and cell biology. All other biological disciplines—for example, anatomy and physiology, microbiology, and genetics—build upon this knowledge. In addition to being one of the student learning outcomes for Biology 121 and Biology 114, understanding of cellular organization is also listed as one of the biology program-level outcomes at many two- and four-year schools across the country.

After we narrowed down the learning outcomes, I researched current literature on the assessment tools used in biology. Many of these assessment tools were in the format of multiple choice questions. I picked several questions from these resources and modified them. The pilot assessment tool I designed is composed mostly of multiple choice questions and a diagram of a cell asking students to identify main cellular components and match them with their corresponding functions. The pilot assessment will be administered to 1 or 2 sections of BIO 114 "General Education Biology" and 3-4 sections of BIO 121 "Biology I" before the end of this semester. We are planning to analyze the results of the pilot assessment to get a preliminary understanding if students are indeed learning about main cellular components and understanding what each one of them does in a cell.

Aigerim Bizhanova, Biology

Unit-Level Assessment in Art & Architecture

The assessment work I have been engaged with this semester has focused on three main components: creating an assessment tool for Art 197 "Advanced Ceramics and Sculpture," overseeing established assessments in the department of art and architecture, and learning about assessment as it relates to being a liaison but also as faculty council president

Creating an assessment tool for Ceramics 197 has been a journey. Trying to figure out what this all means, what I

Fernando Miranda-Mendoza, Mathematics / CIS

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measure, when and how, has involved a learning curve. I started out thinking I should chart beginning ceramics students in Ceramics 196 as well as more advanced Ceramics 197 students by assessing them all early in the semester and then again at the end of the semester. But then I questioned what useful information those assessments in Ceramics 196 would generate for my colleagues and me about student learning.

I arrived at the decision that I didn't need to assess students on the first day because most 196 students have no previous experience with the material covered in the course. After I arrived at this decision I began to consider Carrie Nepstad's signature question of what is it I would die a thousand deaths if my students didn't learn. What is it that I really want to know about student learning? I want to know it all! After some consideration, I realized that the construction (or "throwing") of a cylinder encompasses many of the concepts introduced in the course. All pots made on the wheel begin with this basic form. The weight and scale of the cylinder depend on the potter's expertise, so I decided to develop the Advanced Ceramics assessment around the cylinder. To meet the outcome, students will have to generate a cylinder of a specified minimum height, with additional criteria for the base and wall dimensions of the cylinder that also demonstrate proficient throwing technique.

One of my other duties as the assessment liaison to the Art and Architecture department is to make sure teachers who are conducting an assessment have all the materials, instructions & important dates necessary to administer it. After the assessment has been completed, I assist in processing the data. Even in established assessments, we continue to face new challenges, such as questions about whether and how it might work to have instructors "opt out" in the context of an assessment across multiple sections. We want to ensure that as many instructors as possible stay involved in our assessment work and that we continue to generate a strong sample.

I have learned so much about assessment in the last three months. I have always known that we have a strong assessment culture at the college but never truly understood the nuances. It has been so nice to have time to reflect upon the intricacies of student learning in a much broader capacity (such as all sections of a particular course) than we tend to as instructors within an individual class session. In my liaison role, I have had the time to design a tool to assess the application of concepts covered in the Advanced Ceramics class based on what my colleagues and I want to know about student learning– so cool.

I have also learned a great deal about the importance of assessment as it relates back to the program outcomes. Not only is it important to look at how students are applying concepts relative to the course but also how that piece fits into the larger picture of the program. This information is valuable when we are looking at outcomes unique to each program but also for accreditation. Last and certainly not least, my increased involvement has reinforced how vital it is that this process be faculty driven. Finding myself in a faculty leadership position, I am seeing first-hand how incredibly important it is that HWC faculty, who are the resident experts of each discipline taught at the college, remain the primary advocates for assessment.

Jess Bader, Art & Architecture

The Natural Sciences Assessment of 2008

Very recently, in the Fall of 2015, HWC Assessment Committee conducted a new general education Natural Sciences Assessment. As we are impatiently waiting for its results, let us look back and review the findings obtained in the previous round of HWC Natural Sciences assessment that took place in 2008. The 2008 Natural Science Assessment consisted of solely demographic and affective questions exploring student epistemological beliefs about science. The results of that assessment are summarized in the assessment report, easily accessible via the HWC Assessment committee Web site, briefly:

- 74% of HWC students are comfortable with science, but only 30% would take a science class if not required to do so.
- Since coming to HWC, 57% of our students feel confident about understanding what they read, see and hear.
- Since coming to HWC, 56% of our students agree they are more likely to discuss 'life's big questions.'
- Since coming to HWC, 52% of our students are more likely to read different types of books.
- 50% of HWC students agreed, to some degree, that the study of science has useful applications to their everyday lives.
- Students consider the work of the instructor paramount in their own efforts to learn science.
- There was a statistically significant difference in 'expert' responses between those students who have taken no natural science courses and those who have taken 3 or more classes.

Chris Sabino (Math) and Jaime Millan (Physical Sciences) were members of the 2008 team that designed and conducted the Natural Science Assessment. They graciously agreed to answer a few questions about that assessment and share their thoughts and first-hand experience.

Q: What was the most valuable part of the experience being a part of the 2008 Natural science assessment project for

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you as an educator?

Chris: Given that I was only a few years into my time at HWC, the most valuable part of the experience was being part of an assessment from start to finish. I was a part of this team from creation to dissemination. It was pretty neat to experience the full assessment cycle first hand.

Jaime: Working with colleagues from different disciplines and the assessment committee during the processes of deciding the structure of the assessment tool, its administration, the analysis of data, and the recommendations and reflections.

Q: A common inclination, when assessing student learning in STEM disciplines, is to focus on content and conceptual knowledge; however, the 2008 assessment is solely

Mike Heathfield, Applied Sciences

affective/ epistemological. Do you remember how did that decision come about?

Chris: If I recall, we chose our approach due to the difficulty of creating an assessment that spanned all science offerings. We also wanted to know about students' dispositions, perceptions and attitudes with respect to learning science. Also, I think that we starting by considering a tool like the Force Concept Inventory from Arizona State. I think that that led us to the VASS (Views about Science Survey). The VASS was a valid and reliable tool, allowing us to feel comfortable about creating an assessment similar to it.

Jaime: We considered that content knowledge is specific to a given discipline, and the survey instrument had to be consistent with the HWC General Education Student Learning Outcomes for Natural Sciences. We decided on adopting the general science version of the Epistemological Beliefs Assessment for Physical Sciences (EBAPS), created by Dr. Andrew Elby from the Department of Physics at the University of Maryland, because at that time seemed to us the most well recognized assessment tool about student beliefs and expectations in natural sciences.

Q: HWC assessment committee distinguishes six steps of the Gen Ed assessment: (1) Outcome definition; (2) Assessment research and design; (3) Pilot of assessment tools and processes; (4) Administration of specific assessment; (5) Data analysis; (6) Supporting evidence-based change. Could you recall which of the six stages was the most challenging in the 2008 Natural Sciences assessment and why?

Chris: I remember spending a lot of time working on the outcome definition. This is going back 8 years, so forgive me if my memory is fuzzy, but I remember several drafts of the outcome for natural science being created. Part of what made this arduous was the typical "wordsmithing." Besides that thought, I remember there being some debates about what should actually be included in the outcomes.

Jaime: To me, the most challenging were steps 5 and 6. For the statistical rigor of data analysis we were able to count on the work of a professional statistician. For the identification of key findings, recommendations and reflections, the active involvement of many members of the assessment committee at the time, who brought their expertise in different areas at the time, turned out to be very helpful.

Q: The 2008 assessment report states that HWC Students' performance changed from an overall mean score of 47% among students who have taken 0 natural science courses to 55% among students who have completed 3 or more natural science courses at HWC. It is a statistically significant improvement. Of course, it raises a lot of questions about what increase we would like to see and which factors contribute to this score. For example, how do students manage to demonstrate 47% without any college-level science course-work if three or more science courses bring only an 8% increase in scores?

Chris: In 2008, I was a little surprised by this. But having been around for longer and reading a lot more research, I realize that student habits and attitudes are very tough to change, despite an instructor's best effort. There are many variables that affect students habits and attitudes. The idea that a series of classes could be enough to overcome years of schooling and life is naïve. But the finding does inspire a teacher to challenge student perceptions more, to dig into

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their misunderstandings and, when necessary, try to force cognitive dissonance. If we teach our subjects in a way that leads students to stop questioning, then we've failed to help students refine their knowledge.

Jaime: We decided the survey did not allow us to obtain meaningful data to decide about possible sources of the "incoming level of science beliefs and expectations," which may include previous science courses at a primary, elementary or high school levels, exposure to popular media (TV, movies, newspapers, youTube, social media).

Q: 47% to 55% score boost discussed in previous question is consistent with trends found among HWC students who completed their science courses elsewhere, however, these students demonstrate a similar score boost after only 1-2 science courses. Do you think this data should worry us, HWC STEM instructors, or is it a mere consequence of the non-selective admission status of our institution?

Chris: I don't think that this should be a concern. Perhaps these students had more experience with science in high school. We'd need to dig deeper into this data and perhaps interview some students who fit that category.

Q: Do you have any advice for current and future members of the Assessment committee who will continue to design and conduct various Gen Ed assessments?

Chris: My best advice is to be patient and not rush/force it. The most important part of the process (in my opinion) is being comfortable with the outcomes that we are assessing. The creation of the tool will be much easier if the team buys into what is being assessed in the first place.

Jaime: I suggest the Assessment Committee work with STEM faculty, department chairs, and college administrators, to identify how to implement improvement actions consistent with the recommendations of the Report.

Chris Sabino (Math / CIS) and Jaime Millan (Physical Sciences), interviewed by Yev Lapik Lapik, Biology

Unit-Level Assessment in the Natural Sciences

Most of the previous updates from the Physical Science department focused on the development of a chemistry assessment plan; this involved a serious effort to identify common student learning outcomes and identify appropriate assessment instruments for the introductory chemistry courses (Chemistry 121 and Chemistry 201) that comprise a significant fraction of the course offerings within the Physical Science department. Now that there is an assessment plan in place for all courses within the chemistry discipline, the department has gathered pre-test results this semester across the chemistry curriculum and will be preparing to collect a similar set of post-test data at the end of the current semester.

While full analysis of the assessment efforts in the chemistry discipline will continue once the semester ends, the department can also provide an update on our ongoing assessment efforts in physics. While the department typically offers fewer sections of physics courses as compared to chemistry or physical science, the physics discipline has had an assessment plan in place for several years, due in part to our ability to leverage the resources that have been developed in physics assessment by the physics education research (PER) community.

For example, some of these resources can take the form of a multiple-choice test with conceptual questions designed to probe student thinking about physics. The surveys we have selected are research-based, have been studied using appropriate statistical analysis and interviews with undergraduates and experts in the field, and have been administered at many different colleges and universities. This allows us to compare our assessment results at Harold Washington with the results that have been published in the literature from comparable institutions. These results usually take the form of the normalized gain, which is a quantitative measure of how much students learned as a percentage of their potential learning:

Normalized gain = (post-test average – pre-test average)/(100 – pre-test average)

After determining the normalized gain for the appropriate instrument for either first-semester physics (which focuses on the study of motion) or second-semester physics (which focuses primarily on electricity and magnetism), we have determined the typical normalized gain in first-semester physics at Harold Washington ranges from 30% (typical for the algebra-based physics course) to 45% (typical for the calculus-based physics course). These results compare favorably to the average normalized gain of 22% for a wide variety of physics courses taught throughout the United States and Canada using traditional lecture methods. However, a similar large-scale survey of courses taught using interactive engagement methods usually demonstrates higher normalized gains (39% on average), which suggests that some of the active-learning techniques developed by the PER community (such as peer instruction, clickers, or cooperative problem solving) are worthy of inclusion or refinement in our physics courses, especially in the algebra-based physics sequence.

A similar disparity between the algebra-based and calculus-based sequence is found when looking at the second semester; in these courses Harold Washington students usually exhibit normalized gains that range from 20% (for algebra-based physics) to 40% (for calculus-based physics). Once again, the gains shown in the calculus-based sequence

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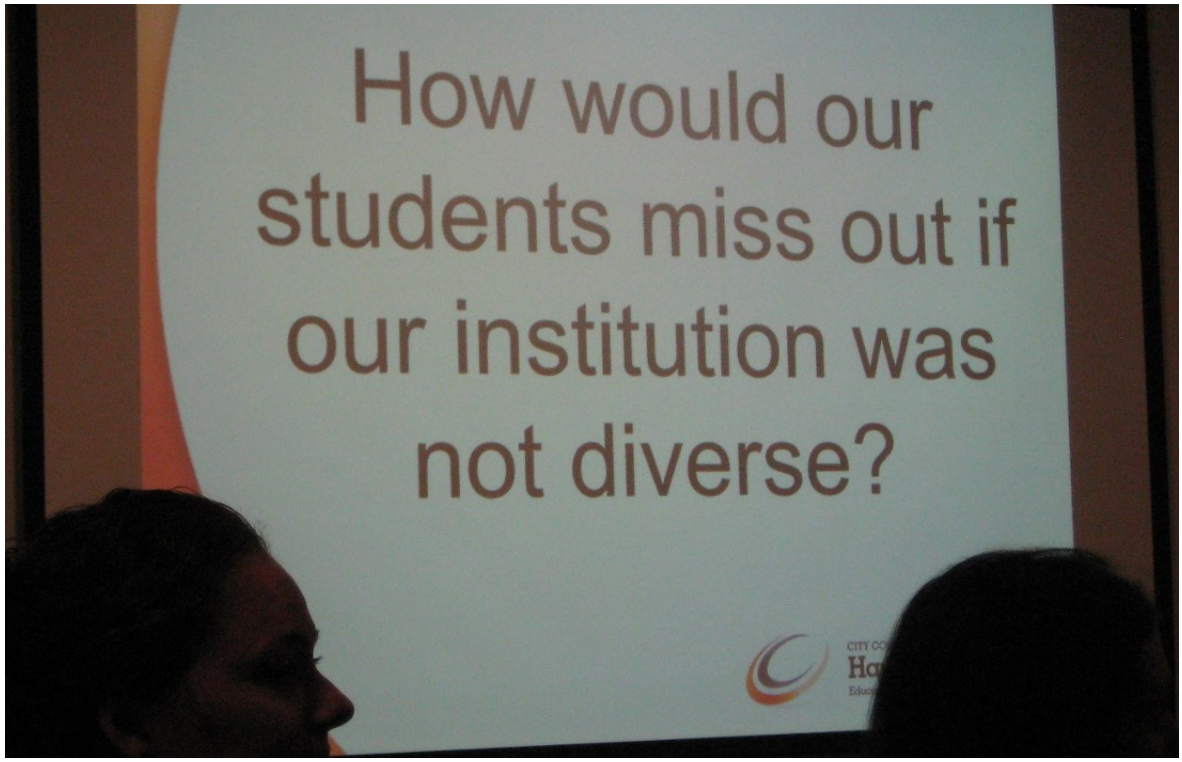

Assessment Day presentation slide

are in line with the results that have been published by universities using interactive engagement techniques in their physics courses (typical normalized gain of 40%) while the gains demonstrated by our algebra-based physics students would be placed at the low end of the range of normalized gains that have been reported in the literature (15% to 40%). However, the published studies of the assessment instrument used in second-semester algebra-based physics do not distinguish between teaching methods when reporting their results. Even so, the difference in performance between the algebra-based and calculus-based physics students on the electricity and magnetism assessment suggests we as a discipline need to be more proactive about implementing within the algebra-based physics courses the research-based teaching methods that have shown to produce increased student learning gains.

Finally, the assessment plan in physics is designed not only to measure gains in conceptual understanding, but also shifts in students' attitudes about physics and physics courses. This is conducted by utilizing a research-based Likert scale survey that allows us to compare the student response to a Likert item to the "favorable" response that an expert in physics might provide. Some of these questions were selected for use in the recent Natural Science general education assessment; in the physical science department we are utilizing the entire instrument.

By administering this instrument as a pre- and post-test, we can measure the shifts in students' beliefs from "novice-like" to "expert-like"; however, we have found that in physics courses at Harold Washington, students demonstrate the behavior found in most physics classes, in which students' beliefs typically worsen or at best remain unchanged. In other words, by the end of the typical physics course, students generally provide fewer favorable responses, as their beliefs about problem solving, sense making, and connecting physics to the real world, become less common to those of experts. The only positive result we can take from the attitudinal surveys is that our physics courses typically show no shift in favorable responses, which suggest students' beliefs do not change much during their one to two semesters of physics. One analysis described our assessment data in this way: "Your zero shift means you are not doing any harm to your students' beliefs, which is better than what happens in most physics classes."

Future directions in assessment in physics will involve further analysis of the attitudinal results to see if there are demographical differences in the shifts of students' beliefs, as well as developing a standardized assessment procedure that will help both refine the long-standing assessment practices used by the full-time physics faculty and help part-time physics faculty become acclimated to these procedures. As for the other disciplines in the Physical Science department, we hope to share future results about learning gains in their

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respective fields in the coming semesters.

Anthony Escuadro, Physical Sciences

Unit-Level Assessment – A Look at the Annual Accreditation Data in Child Development

As many of you know, the Child Development program at HWC was one of the first Associate of Applied Science degree programs in the U.S. to become accredited from the National Association for the Education of Young Children (NAEYC). We were amongst the first applicants, the first to go through the self-study, the first to be visited by external accreditors and the first to receive our accreditation without any conditions. This speaks to the strong culture of teaching and learning that has been the cornerstone of the Child Development program at HWC and to the core value of assessing student learning in our programs.

Since that time, we have gone through a second round of self-study, a second external accreditor visit, and once again, received our reaccreditation without any conditions. In addition, every year between the self-study cycle, we are responsible for writing an annual report that highlights one of our Key Assessment and speaks to our continued and vigorous efforts to improve student learning in our program.

From 1/2015-12/2015 we focused on assessing student growth in conducting observations of children and interpretations of those observations. This is one of our Key Assessments which examine several student learning outcomes within the seven NAEYC Standards for Associate Degree programs.

The following is an excerpt from our annual report to NAEYC.

Briefly summarize candidate performance data from this key assessment.
Assessment Summary:

Term	Course	Average	Standard Deviation	Number of Candidates
Spring 2015	CD 101	1.19	0.50	44
Spring 2015	CD 259	1.72	0.45	13
Fall 2015	CD 101	0.80	0.54	65
Fall 2015	CD 258	1.90	0.21	19

Cohort Comparisons:

Comparison	% difference	Significant
SP101 - FA101	-32%	Yes
FA101 - FA258	137%	Yes
SP101 - FA258	61%	Yes
SP101 - SP259	45%	Yes
FA101 - SP259	114%	Yes

- Statistically significant differences between FA and SP cohorts in CD101
- 137% statistically significant increase in score between CD101 and 258 with 95% of students meeting the standard for an observational and interpretation assignment.

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Rubric Dimensions	4b. Knowing & understanding effective strategies & tools for early education	3b. Knowing about & using observation, documentation, & other appropriate assessment tools & approaches.	Supportive Skill #3: Written & Verbal Skills	3a. Understanding the goals, benefits, & uses of assessment	1b. Knowing & understanding the multiple influences on development & learning. Supportive Skill #5: Identifying & using professional resources	1c. Using developmental knowledge to create healthy, respectful, supportive, & challenging learning environments
SP15 101	85%	85%	67%	42%	39%	38%
SP15 259	96%	92%	92%	88%	65%	81%
FA15 101	55%	35%	52%	26%	25%	48%
FA15 258	100%	95%	92%	100%	89%	95%
The charts above describe assessment data collected from CD 101, across sections, and from CD 258 and CD 259 in order to look at student performance in the aggregate.						

NAEYC Question/Requirement - Describe how data from this key assessment are being used to improve teaching and learning related to the standards.

In our last annual report, we looked at candidate performance for this Key Assessment over several sections of the same course (CD 101). We found that it was difficult to interpret the data, as it was inconsistent across semesters. This inconsistency persists still when looking at performance from the spring to the fall semesters within the CD 101 courses and requires further reflection. Students perform statistically significantly better in the spring semester as opposed to the fall semester. Conceivably, students taking CD 101 during the spring semester have slightly more experience with college life and with the Child Development program, which may provide one possible explanation for the difference in performance. Another possible explanation is that CD 101 is a required course for other programs within the college. This brings together a range of students with diverse backgrounds and college experiences in each section and may explain the variations in performance on this assessment.

Due to this inconsistency in performance within CD 101, we decided to look at student progress over time (in the aggregate). This methodology has proven to be far more enlightening about student growth and performance.

Students perform statistically better overall on this Key Assessment at the end of the program (whether in CD 258 or CD 259) than they did closer to the beginning of the program in CD 101. When examined further, the data also reveals that students Meet the Standard at a rate of over 90% in all dimensions of the rubric except 1b (89% in CD 258 and 65% in CD 259) and 3a (88% in CD 259). This indicates that our students are meeting, and perhaps even exceeding our student learning outcomes for this assignment.

NAEYC Question/Requirement -Briefly describe how supportive skills are developed within this key assessment.

In addition to content-specific learning outcomes, our external accreditors also ask that we assess "Supportive Skills" – skills that are seen in the profession as necessary to success and a requirement of professional performance. We include supportive skills in each of our Key Assessments. For the Observation and Interpretation Assessment, we assess the following two supportive skills:

SS #3 – Written and Verbal Skills

The Observation and Interpretation assignments require a significant amount of writing which provides a format for frequent and abundant feedback from faculty about student writing skills.

SS #5. Identifying and Using Professional Resources

Students are also asked to use professional resources, including but not limited to their textbooks, to support their interpretations. Faculty provide feedback about appropriate citations and supporting documentation.

NAEYC Question/Requirement - Describe how data are used to improve the program

This key assessment is administered in the CD 101 Human Growth and Development course as well as in both the CD 258 – Principles and Practices of Preschool Education and CD 259 – Practicum in Preschool Education. This approach allowed us to examine student performance over time. We

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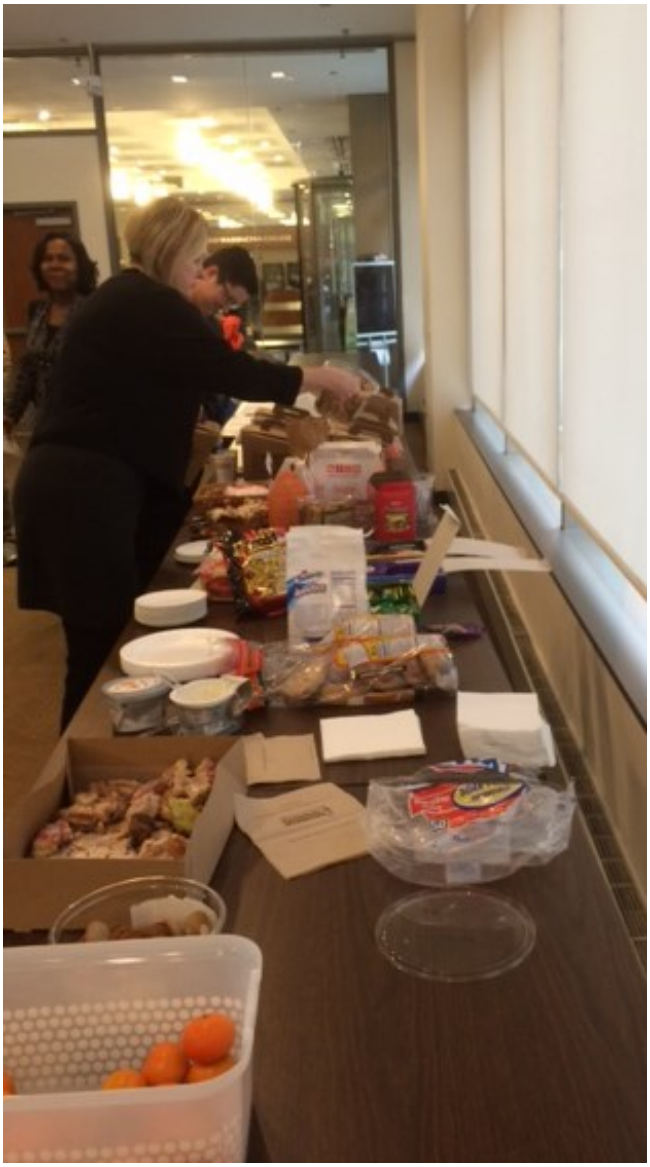
offer several course sections of CD 101 every semester, including during the summer term, but only two sections of the CD 258 and 259 courses are offered each semester. (Note: N is much lower for the 200-level courses.) The data collected from the spring 2015 and fall 2015 terms showed statistically significant consistent growth over time within the program. Students performed better at the end of the program than they did at the beginning of the program in the skill of observation and interpretation.

The use of one Observation and Interpretation rubric supports consistent expectations of student performance throughout the program and provides faculty with a framework from which to instruct. Instructors are advised about how to use the rubric as an assessment tool and are encouraged to work with students on the detailed expectations of these skills. This consistency has been a positive factor in our program's success.

Final Thoughts-

I arrived at HWC 15 years ago and was encouraged to work hard, grow our program, recruit students, and provide the best early childhood education possible. I did that, and my colleagues did that. Our program grew. Our reputation grew. The Child Development Program at HWC was and is known as one of the best places to go to study ECE in the city, if not the state. Our data reflects the amazing work the three full-time faculty do, each and every day, and the consistent and incredible work our adjunct faculty do, in addition to their regular jobs, to make our program the outstanding model that it is. In spite of threats of program closures, otherwise known as consolidation, we continue to operate with a "business as usual" mentality, focusing on learning, focusing on children, and focusing on what is important.

Jennifer Asimow, Applied Sciences



Assessment Day smorgasbord

Unit-Level Assessment in Mathematics

This semester we continued the unit-level work began in the spring 2015 term. A pilot assessment tool was developed during that semester and administered to a couple of sections of Math 207 (Calculus and Analytic Geometry I) at the end of the term. The main goal of our assessment was to determine if students in Math 207 have any mathematical deficiencies at either the developmental, college algebra, or calculus level. The assessment tool we created was a short quiz that consisted of two questions based on the same student learning outcomes. Each question was divided into three parts; each part aimed to isolate a particular level of mathematical proficiency.

The data analysis of the pilot assessment's results was completed this semester. Overall, students performed very well on the first question (a purely mathematical question). Nevertheless, many students performed poorly on the second one (an applied "calculus optimization" question). Some responses indicate that students may have misunderstood this second question and, consequently, provided unrelated answers or no answer. However, these applied questions are difficult for students across all calculus classes, so we would like to investigate this issue again as we run a modified version of the assessment tool this semester.

OpenBook data was finally incorporated into the pilot's results. One interesting finding from the course history was that several students in this sample had already completed a math class at a higher level than Math 207. In particular, a few students were previously enrolled in Math 208 (the second course in the three-semester calculus series) which requires successful completion of Math 207. It seems that

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ASSESSMENT COMMITTEE CHARGE

The HWC Assessment Committee is dedicated to the improvement of student learning through the meaningful utilization of assessment data in an effort to support the HWC community towards the evolution of college curriculum. As outlined in this charge, the HWC Assessment Committee is committed to defining assessment at Harold Washington College, as well as establishing and ensuring that appropriate assessment procedures and practices are followed in collecting, reviewing, analyzing and disseminating information/data on assessment. Finally, the HWC Assessment Committee is responsible for providing a forum for dialogue regarding assessment issues to support a college culture, which includes the assessment process.

COMMITTEE MEMBERSHIP

We are always looking for new faculty, students and staff to join in our exciting work. We meet every Wednesday from 3 p.m. to 4 p.m. in room 1046. All are welcome to join us. The Committee Charge states that there can only be two voting members from each department, but we are happy to involve as many people in our work as possible. If you want to discuss what this might involve or ask further questions, please contact Carrie Nepstad (see contact info at left).

Newsletter layout: John Kieraldo

several students were attempting the class for a second time (perhaps to improve their GPA). It will be interesting to keep track of student's course history in future departmental assessments.

We will be running a revised version of the assessment tool this semester in at least four sections of Math 207. A few revisions were made to improve instructions and enhance the scoring rubric. Instructions to both, faculty and student volunteers, now specify that performance on the assessment tool will affect neither instructors nor students. The previous instructions to students only specified that performance will not affect their grade and did not mention anything about the instructor. A student wrote the following comment on the second question (which he/she left blank): "I do not remember how to solve this question, but my instructor is great." It appeared that this student regarded the assessment tool as an evaluation of the instructor. We hope that the modified instructions will reassure all students and instructors that assessment tools are not used for evaluation.

Also, the scoring rubric was slightly modified to account for insightful answers that are correct but do not quite follow calculus methods. This change was motivated by a student who was able to get some correct results on the second applied question of the pilot by taking a different route than expected. Finally, the language used on the second applied question of the assessment tool has been modified to make it clearer and avoid the apparent confusion on the pilot. As with the pilot assessment, faculty volunteers will be running this second version of the assessment during the last weeks of the semester.

Finally, colleagues in the department continued the conversations regarding the developmental classes. Some modified classes will be run over the summer and fall semesters. A new unit-level assessment project based on these modified classes may begin next semester, depending on the department's needs.

Fernando Miranda-Mendoza, Mathematics / CIS