ASSESSMENT COMMITTEE ANNUAL REPORT

Fall 2015-Spring 2016

Prepared by: Carrie Nepstad
Assessment Committee Chair

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COMMITTEE MEMBERSHIP

Executive Committee

Chair: Carrie Nepstad, Applied Science

Vice Chair: John Kieraldo, Library

Research Analyst: Philip Vargas, Physical Science

Research Analyst (starting in the Spring): Sarah Kakumanu, Math and CIS

Interim Secretary (Fall): Jen Asimow, Applied Science

Vice Chair Unit-Level Assessment: Erica McCormack, Humanities and Music

Unit-Level Assessment Liaisons: Fall

Applied Science, Jen Asimow

Art and Architecture, Paul Wandless

Business, Theresa Campbell

Humanities and Music, Erica McCormack

Mathematics and CIS, Fernando Miranda-Mendoza

Physical Science, Allan Wilson

Unit-Level Assessment Liaisons: Spring

Applied Science, Jen Asimow

Art and Architecture, Jess Bader

Biology, Aigerim Bizhanova

Business, Bral Spight

English, Speech, and Theatre, Amy Rosenquist

Humanities and Music, Erica McCormack

Mathematics and CIS, Fernando Miranda-Mendoza

Physical Science, Anthony Escuadro

Social Science, Janette Gayle

Membership

Cindy Cerrantano, Academic Affairs

BriAnne Nichols, Academic Support Services

Ray Tse, Physical Science

Willard Moody, English, Speech, and Theatre

Loretta Visomirskis, English, Speech, and Theatre

Yev Lapik, Biology

Bara Sarraj, Biology

HIGHLIGHTS

This academic year included many projects typical to the Assessment Committee (AC) such as administering an assessment on Natural Sciences and revising the Humanities assessment tool which will be administered during the fall 2016 semester. This year, committee members presented at one national conference and one state conference, and published two newsletters. The committee participated in Faculty Development Week activities, District-Wide Assessment Committee activities, and a variety of meetings including department chairs, CAST, and a bi-weekly meeting with VP Armen Sarrafian. This year, the committee hosted a day-long faculty development event on April 8, 2016 which focused on recommendations from the Diversity report and reviewing various projects coordinated by the unit assessment liaisons from the departments.

PARTICIPATION DATA

Activity	Fall 2015	Spring 2016
Committee Meetings	13	14
Lowest Weekly Attendance	10	14
Highest Weekly Attendance	15	18
Average Weekly Attendance	12	16
Number of Departments and Offices Represented	10	11
Regular contributing departments	Applied Science, Biology, Library, Humanities & Music, English/Speech/Theatre, Math & CIS, Physical Science, Art & Architecture, Social Sciences Academic Affairs	Applied Science, Biology, Business, Social Science, Library, Humanities & Music, Math & CIS, Physical Science, English/Speech/Theatre, Art & Architecture, Academic Affairs Academic Support Services

KEY ACTIVITIES FALL 2015

Faculty Development Week (FDW)

The Committee for the Art and Science of Teaching (CAST) hosts faculty development week at Harold Washington College (HWC) at the beginning of each academic year. This generally includes presentations in the morning and break-out sessions in the afternoon. This year, the Assessment Committee (AC) was asked to do an opening session on the kick-off day of the event. Carrie Nepstad, AC Chair, facilitated a presentation and workshop focused specifically on "Closing the Loop". This involved a presentation describing the assessment process at HWC, and specific examples of how assessment results have been used to make curricular decisions.

The second half of the presentation was a workshop that involved sharing recommendations based on general education assessment data collected on Diversity, Effective Writing, and Oral Communication. Participants were asked to discuss the recommendations, and reflect on how they have made use of this information in their own teaching. Participants were then asked to write down specific examples of how they have made use of the recommendations in the past or how they plan to make use of the recommendations in the coming semester. Members of the AC read through these comments and sent a follow-up e-mail to each of the fifteen faculty members who had written a response. The goal of this exercise was to continue the conversation and offer support to faculty as they continue to make use of assessment data in their own teaching. Responses to the FDW presentation, workshop, and follow-up e-mail were positive. Faculty expressed that this format worked well, that it helped to demystify the assessment process, and that it reassured faculty that the purpose of assessment is to provide instructors with information they can use in order to support student learning.

Assessment of General Education

During the fall 2015 the main project was administration of the Natural Sciences assessment tool and analysis of the Information Literacy data.

Natural Sciences

HWC General Education Goal: To understand the major principles of the natural sciences and the application of the scientific method to biological, physical, and environmental systems.

> Definition: The Natural Sciences encompass the life sciences (Biology, Zoology, and Botany) and the physical sciences (Physics, Chemistry, and Earth Sciences - Geology, Meteorology Oceanography and Astronomy). The Scientific Method is the process used to explore nature, and it is based on observations, predictions, experimental investigations, and theoretical explanations of natural phenomena. Application of the scientific method reveals patterns in the observed phenomena, which leads to the fundamental concepts, theories, and laws of the life and physical sciences.
>
> Student Learning Outcomes
> The student will be able to
>
> 1. Formulate reasonable explanations of natural phenomena based on thorough observations.
> 2. Interpret and articulate scientific results that are presented in verbal, graphic and/or tabular form.

3. Critically evaluate scientific resources and scientific claims presented in the media.
4. Apply steps of the scientific method to solve problems.

Information Literacy analysis and recommendations

Research Analyst Philip Vargas provided initial findings last semester. This semester he did more analysis after presenting that to the AC, committee members considered the possibility that the Information Literacy results are more compelling when considering outcomes specific to English 102 but are less valid in terms of overall general education. The AC determined that the Information Literacy SLOs may need to be revised in partnership with the Library and consequently the Information Literacy will need revision. The general education subcommittee discussed this further and considered possible projects moving forward including providing more information on the AC website about how to support information literacy skills across the curriculum.

Data from the small pilot done with faculty in the spring 2016 semester were reviewed. The sample size was very small across three groups: 1) students enrolled in the Information Literacy course, 2) students enrolled in courses where instructors made some effort to include learning opportunities about Information Literacy, and 3) students enrolled in various courses where the instructor "did nothing" about information literacy as a control. Instructors in all three groups administered the Information Literacy assessment at the end of the semester, but because the sample size was small, and the data gathered were not particularly informative. However, the result mirrored results from the larger general education assessment in that the tool seems to be a better indicator of English 102 SLOs than it is of Information Literacy.

Closing the Loop

During the fall semester a subcommittee focused on Closing the Loop, which will met periodically during the second half of the weekly AC meetings.

In addition to the FDW presentation and workshop focused solely on Closing the Loop (see above), the AC published a special edition of the Assessment Times newsletter showcasing specific examples of closing the loop at HWC: "Closing the Loop Special Edition of the Assessment Times Fall 2015". This was published in addition to the regular fall edition of the Assessment Times. Normally, the Assessment Times newsletter is saved as a pdf file and sent to the HWC community electronically. For the special edition, color copies were disseminated to all faculty and all major departments and offices on campus. The special edition was well received.

District-Wide Assessment Committee

During this academic year, the District is promoting a revamp of the District-level Assessment Committee facilitated by Keith Werosh. Assessment Committee Chairs from each campus met monthly to share college updates. Keith designed a Sharepoint site where various documents can be housed.

Assessment and Administration

The AC Chair meets with the Vice President bi-weekly throughout the semester. In general, the Chair provides updates about ongoing assessment projects and the Vice President provides institutional context in terms of projects outside of assessment that may relate. The Vice President also provides support for the AC's decision making process but also in terms of financial support for AC members to

attend the Assessment Institute in Indianapolis and approving color copies or other types of in-kind services.

Assessment and Students

It's always been important to the AC that students are informed about assessment at HWC but also that they play an active role in the assessment process beyond simply providing data. This has proven to be a challenge over the years but the AC has continued to keep the role of student representative listed on the Charge. This semester Associate Dean Cindy Cerrantano identified a possible candidate. However, in the end, the student's schedule changed and she was not longer available to participate. The AC will continue to explore opportunities for more student involvement.

Assessment Handbook

During the fall semester an archived HWC Assessment Handbook was reviewed by the committee and several ideas were generated about how to update the document. The goal for a revision would be to provide a practical guide that includes checklists and timelines that would be useful to current committee members but would also serve as a template for future work. This will be a longterm project of the AC.

Publications

The fall 2015 edition of the Assessment Times prepared by Chair John Kieraldo, Library

Public Speaking

- Phillip Vargas, Physical Science; and Carrie Nepstad, Applied Science presented at the 2015 IUPUI Assessment Institute in Indianapolis: "What does Faculty-Driven Assessment Look Like?" There were over 500 participants in this session. Participants shared with the presenters that they were impressed with HWC's level of faculty engagement.
- Michael Heathfield, past AC Chair, was invited to present at an international conference in Mexico. His presentation focused on building the assessment committee and the culture of assessment at HWC.

KEY ACTIVITIES SPRING 2016

In the spring, the committee partnered with Faculty Council and the Committee for the Art and Science of Teaching (CAST) to plan and facilitate a professional development day which was held on April 8, 2016.

Closing the Loop

Carrie Nepstad presented an overview of the efforts at HWC to close the assessment loop by providing recommendations based on the data analyzed by the AC. Michael Heathfield, former AC Chair spoke briefly about the results and recommendations made by the AC based on the general education SLO data collected in 2008 and again in 2013 (check dates). Joe Hinton presented the keynote address on diversity and supporting all students within the HWC community. After this presentation there were breakout sessions

Assessment of General Education

Core Documents Review

Core documents include the Master Assessment Calendar and the Assessment Committee Charge.

Publications

Spring 2016 edition of the Assessment Times Prepared by Vice Chair John Kieraldo, Library

Public Speaking

Carrie Nepstad, Jennifer Asimow, Erica McCormack, and Fernando Miranda-Mendoza, presented at the 20th Annual Community College Assessment Fair held at Harper College in Palatine.

UNIT-LEVEL ASSESSMENT ANNUAL REPORT

Unit-Level Assessment Annual Report

Academic Year 2015-2016

Report prepared by Vice-Chairperson, Unit-Level Assessment: Erica McCormack

In the 2015-2016 Academic Year, the Harold Washington College Assessment Committee (HWCAC) was grateful to see the Unit-Level Coordinator/Vice-Chairperson role and each of the previously-established six Unit-Level Liaison positions (which were in place for the first time as of Spring 2015) reaffirmed and supported by administration in the budget for the Fall 2015 semester, then expanded to nine in the Spring 2016 semester.

The most recent departmental additions to the Unit-Level program were Biology; English, Speech, and Theatre; and Social Sciences. Erica McCormack, Assistant Professor in Humanities and Music, has been serving as the Unit-Level Coordinator/Committee Vice-Chair, Unit-Level Assessment since Spring 2015 and expects to continue in that role for the 2016-2017 Academic Year as long as the Coordinator role remains in the budget, as it is expected to.

Indeed, in the future, local administration has agreed that the Coordinator role will merit six hours of release time rather than three due to the number of liaisons (and therefore of meetings and written work) more than tripling since the Coordinator role was first established. This past academic year, the Unit-Level Coordinator also served as a Unit-Level Liaison to the Humanities department, and while that dual role was challenging but functional when there were six liaisons in the Fall 2015 semester, the Humanities Liaison work suffered in the Spring 2016 semester because duties related to coordinating the other eight liaisons overtook the three hours allotted for the Coordinator. Next semester, another faculty member will overtake the Humanities Unit-Level Liaison role (assessment veteran David Richardson), so the Humanities Liaison work and Coordinator work should both demonstrate higher quality next academic year.

Unit-Level assessment has been defined by the HWCAC as the assessment of any student learning outcome that goes beyond the individual class level but that does not extend to the level of the college general education outcomes. The Unit-Level Liaisons facilitated assessments with the input of their colleagues in the following six departments during the Fall 2015 semester—Applied Science (Jennifer Asimow); Art & Architecture (Paul Wandless); Business (Theresa Campbell); Humanities & Music (Erica McCormack); Mathematics & CIS (Fernando Miranda-Mendoza); Physical Sciences (Allan Wilson)—and in the following nine departments during the Spring 2016 semester—Applied Science (Jennifer Asimow); Art & Architecture (Jess Bader); Biology (Aigerim Bizhanova); Business

(Bral Spight); English, Speech, & Theatre (Amy Rosenquist); Humanities & Music (Erica McCormack); Mathematics & CIS (Fernando Miranda-Mendoza); Physical Sciences (Anthony Escuadro); Social Sciences (Janette Gayle)

The committee charge for Unit-Level work requires that all liaisons follow the six-stage process of assessment work: 1) Department Buy-In and Outcome Definition; 2) Assessment Research and Design; 3) Pilot Assessment Tools and Processes; 4) Administer Specific Assessment; 5) Data Analysis; and 6) Supporting Evidence-Based Change (Use of Findings).

Each assessment that is developed with the mentorship of a Unit-Level Liaison should run through this loop, but all six stages do not occur within a single semester. Especially for departments just beginning Unit-Level Assessment work (as of Spring 2016, that includes Biology; English, Speech & Theatre; and Social Sciences; plus, due to temporary liaisons filling in for established liaisons on sabbatical, Art & Architecture and Physical Sciences), the first couple of stages can comprise the work of the first semester, then the administration of the full-scale assessment and analysis of the data to support evidence-based change can continue in subsequent semesters.

The way this Unit-Level assessment work continues and expands over the course of multiple semesters is particularly evident in the Applied Science report. As a department, Applied Science has by far the strongest history and experience doing all levels of assessment work. In recent years, it has been ably served by Michael Heathfield (former Assessment Committee chair who inaugurated the Unit-Level Liaison program), Carrie Nepstad (the original Applied Science liaison and current Assessment Committee chair) and Jen Asimow (the current Applied Science liaison and former Assessment Committee chair). Applied Science, Art & Architecture, and Humanities & Music have all had Unit-Level Liaisons since the Fall 2012 semester. The Art & Architecture department began a new assessment with a new liaison in the Spring 2016 semester, and the assessment project in the Humanities & Music department hit a significant stumbling block when it came to data recording and analysis, so the Applied Science report is the best example of the way in which the cyclical six-stage process is used to get one assessment running within the department then sustain that assessment while developing another.

The administrative support for Unit-Level Liaisons and the Unit-Level Coordinator, primarily represented through the allotment of reassigned time for doing this assessment work, is vital to the success and growing complexity of the assessment process. One of the greatest successes for the college related to the Unit-Level work has been what it has offered to departments invested in Unit-Level assessment efforts. More discussions among faculty related to student learning and how to best support evidence-based change are happening in those departments, and a clearer understanding of the faculty-driven assessment process at HWC has taken root. This increased dialogue and understanding helps strengthen buy-in for assessment efforts at the General Education level as well as at

the Unit-Level, and the committee therefore looks forward to a time when every department at HWC will have a Unit-Level liaison participating in this process. That is scheduled to occur in the Fall 2016 semester when the English Language Learners/World Languages and Library departments each receive a liaison. That would bring the total number of liaisons up to 11 from the current 9; however, as the Applied Science department has been dissolved based off of City Colleges of Chicago district-level decisions to remove programs (many in the Applied Science department) from HWC, even high-performing ones, that number will most likely be 10.

The local HWC administration's financial support that makes Unit-Level assessment work possible represents the vital accompanying reallocation of faculty time through the establishment of the 3-credit equivalence for the Liaison role, and (thus far) for the coordinator role. That time is used by the Liaisons to work through the six stages of assessment, which includes meetings with other stakeholders in the department and meeting weekly with other Unit-Level Liaisons and the Unit-Level Coordinator. At the beginning of the semester, as many of the Liaisons who could attend a meeting from 2-3pm every Wednesday (before the 3-4pm HWCAC meeting) met jointly in order to become familiar with the six stages and the process of doing Unit-Level work. The Unit-Level Coordinator met with the other liaisons individually on a weekly basis. The more veteran liaisons provided excellent mentorship for the new liaisons getting ready to start this work within their departments. Midway through the semester, meetings were broken up so that the Unit-Level Coordinator could either work one-on-one with each liaison. This allowed for more individual feedback and support to be provided to each project once they had been better defined and got underway. As the number of liaisons has recently increased and will increase again in the Fall 2016 semester, revisions will need to be made to this operating procedure in order to create more time to work individually with each liaison on a weekly basis.

Rather than conducting a showcase of Unit-Level work during the regularly-scheduled Assessment meeting, as has been standard practice in previous years to highlight how much progress each Liaison has made on behalf of their department and also how distinct each of the Unit-Level projects are, the Assessment Committee created the agenda for a faculty-run professional development day on April 8, 2016. In addition to furthering the goal of the Assessment Committee to foster more frequent and deeper discussions among faculty related to student learning and how to best support evidence-based change, it created an opportunity for all nine Unit-Level Liaisons to present to an audience of full-time and part-time students, each focusing on a particular topic, such as "Assessing vs. Grading" and "Generating Evidence to Back Up Your Claims." Faculty feedback about the event was very positive.

The Unit-Level model has enough structure so that new projects can be developed and implemented, but it is also flexible enough to be able to assess the authentic questions

about student learning that faculty working in the various disciplines and programs within departments want to know, thus providing data to address those questions and allow faculty to support evidence-based changes in the future. The Unit-Level work being done at HWC represents a flourishing of assessment activity across the college that is an important parallel to the committee's General Education assessments, and the committee hopes to encourage it to not only continue in these nine departments but soon expand to include all academic departments and infuse authentic assessment dialogue and work in every department and discipline.

Unit-Level Assessment Liaison Report

Spring 2016

Liaison Project Start Date (Semester/Year): Spring 2016

Liaison Report prepared by Amy Rosenquist

Department Buy-In and Outcome Definition

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. An introductory email was sent to all English faculty, requesting sample rubrics from 102 instructors. Subsequent activity included additional follow up emails, face to face requests and clarification, chair and department-level brief reports/updates, and a visit from the Unit Level Coordinator at our April department meeting.

Assessment Research and Design

The project changed, as most of the independent materials submitted did not include specific points or percentages correlated to specific categories. Instead of focusing on the number of points or percentages assigned to each category of the rubric, I calculated the number of times an item appeared on a rubric representing points, a percentage, a requirement, or a pass/fail element. The rubric items and categories were compared both against themselves (the number of rubrics that required that item) and with the Departmental Rubric. These items were also evaluated to determine how they aligned with the Student Learning Outcomes for English 102 (Appendix A).

Pilot Assessment Tools and Processes

This assessment involved collecting data from faculty rubrics; therefore, a pilot assessment was not included.

Administer Specific Assessment

Rubrics were collected up until Week 11. Nine rubrics were collected; in addition, seven faculty replied that they use the departmental rubric. (Of those seven, two did not realize we could supplement with an independent rubric, two mentioned that they have been planning to write a supplement or independent rubric but haven't yet, one reported satisfaction with the departmental rubric, and two use both the departmental and a supplemental rubric.)

Data Analysis

As the table below (Appendix B) indicates, the majority of the independent rubrics included the presence and strength of a thesis statement as a requirement. This was followed by components including paragraph structure, correctly formatted in-text citations and Works Cited page, the presence of synthesis and analysis of source material (rather than merely reporting), demonstration of critical thought, and clear support for the thesis within claims and evidence chosen for inclusion in the paper. The overall structure of the essay (an effective outline), the presence of relevant support via examples and evidence from source material, the effectiveness of transitions, and the quality of source materials (generally primary academic or peer-reviewed sources) were also mentioned in many independent rubrics.

The Departmental Rubric is divided into six sections: Analytic Writing, Research Skills, Documentation, Critical Reading, Correct English, and Manuscript Form. Of these categories, two (Critical Reading and Manuscript Form) were not included on the independent rubrics.

The category encompassing mechanics and grammar makes up 20% of the current Departmental Rubric, but is underrepresented in independent rubrics. Anecdotally, many English 102 professors refuse to accept final papers with grammatical errors to an extent that suggests they are written below English 101 level; therefore, many more instructors may include this component as a factor in final grading, although it does not appear on all rubrics.

Supporting Evidence-Based Change (Use of Findings)

At a time when issues of plagiarism, attribution, critical reading, information literacy, and original thought are paramount in relation to the rise of the technological age, and considering the variety of programs and 4-year universities our students transfer into, it may be well advised to embark on a broader inquiry into whether our English 102 policies, SLO's, and practices still best prepare students for subsequent academic and professional endeavors. Collecting research paper and project instructions and/or rubrics from our most frequent transfer schools may be advised before we re-address SLO's or departmental approaches to this course.

An even more thorough investigation into departmental rubrics and practices that incorporates many of the full time, long term faculty who primarily teach 3-4 sections of English 102 each semester could better portray our department. Although participation was voluntary and I am very grateful to those who participated, the data collected does not include many of the most prolific instructors of this course, and therefore, may not present a complete picture of our departmental practices.

Success Factors

Success factors included the high numbers of adjunct instructors who participated, responded, and engaged in conversation about the course requirements and rubrics; the number and scope of rubrics collected, for a first-semester project; and the correlation between some of the highest ranked rubric categories with the course SLOs and objectives.

Recommendations

Recommendations include a second call for additional rubrics in the fall to gather additional, more substantive, and therefore more accurate data in terms of drawing department-wide conclusions about how English 102 final papers are assessed. This could be done in conjunction with initial research beginning to be conducted at a sample of CCC career programs and four-year partner colleges and universities to determine what skills are, in fact, necessary for students who transfer.

Appendix A: Student Learning Outcomes for English 102

A. Distinguish between reputable and non-reputable research sources
B. Effectively use the library resources
C. Think critically about works of literature, formulate his/her own views about texts, and clearly express those views both orally and in writing
D. Write and effectively sustain a coherent argument of considerable length that blends original thought with support from both primary and secondary sources and is relatively free of mechanical and grammatical errors
E. Write a research paper that correctly uses MLA format

Appendix B: Rubric Components on Faculty Rubrics & Departmental Rubric

SLO Addressed	Component	Independent Rubrics	Department Rubric
D	Strength of thesis	11	x
D	Paragraph Structure	7	
E	Correct in-text citations	7	x
E	Correct Works Cited page	7	x
C	Synthesis/Analysis	7	
C	Critical Thought	7	
D	Reasons/Claims Support Thesis	7	x
D	Essay Structure	6	x
D	Support (examples/details is *present*	6	
C	Effective Transitions	5	x
A, B	Quality of Sources	5	
D	Accuracy of word choice	4	x
D	Academic, formal language/style	4	
E	Correctly formatted quotations	4	
C	Balance of information vs. author's voice/analysis/ Discussion	4	
E	MLA Formatting (TNR, etc.)	4	
B	Minimum # of sources	3	
D	Correct paraphrase/ summary	2	x

D	Minimum 8 pages	2	
D	Counterargument is *present*	2	
D	Introduction and conclusion are *present*	1	
D	Solution is *present*	1	
	First person experiences are included as support	1	

Additional categories included on the Departmental Rubric:

Critical Reading:

1. Demonstrated the ability to identify logical fallacies.
2. Demonstrated the ability to identify inferences.
3. Demonstrated the ability to identify rhetorical techniques.
4. Demonstrated the ability to identify methods of reasoning.

Manuscript Form:

1. Formatted pages correctly[1]
2. Sectioned the parts of the research paper correctly[2]
3. Overall appearance of manuscript

[1] Depending on interpretation, this could correspond to "Essay Structure," above
[2] Depending on interpretation, this could correspond to "MLA Formatting," above

Unit-Level Assessment Liaison Report

Spring 2016

Liaison Project Start Date (Semester/Year): Spring 2016

Liaison Report prepared by Anthony Escuadro

Department Buy-In and Outcome Definition

Chemistry

Because of the transition between assessment liaisons because of Prof. Allan Wilson's sabbatical, one of the main tasks for the department was to continue the implementation of the assessment plan in the chemistry discipline that Prof. Wilson had developed in prior semesters. Because of the relatively large number of faculty (both part-time and full-time) teaching chemistry in the Physical Science department, much of the assessment work conducted at the beginning of the semester involved coordinating the chemistry assessment activities, which involved administration of the assessment instruments to be described in Section II as pre-tests, among the faculty of the department. This involved carefully explaining the goals of the assessment practices as initially communicated to the chemistry faculty by Prof. Wilson at the end of the Fall 2015 semester.

Another aspect of administrating the chemistry assessments was addressing common questions that the faculty had about the instruments themselves; one of the most prevalent questions that the part-time chemistry faculty had was if they were allowed to review and analyze the results of the pre-tests after they had been completed by their students. After realizing that this was a common request, it was decided to make it clear that faculty were allowed and encouraged to review their own pre-tests results prior to submitting them to the liaison for compilation and analysis. We hope that this accommodation made it easier for adjunct faculty to be more willing to participate in the assessment efforts and allayed any fears that the assessments would be used to evaluate individual faculty. By the end of the initial assessment period that was completed by the second week of the semester, all but one of the chemistry faculty who taught a course that aligned with a selected pre-test participated in the assessment effort.

In terms of defining outcomes to be assessed, the chemistry assessment plan consists of utilizing existing exams produced by the American Chemical Society (ACS) Division of Chemical Education Institute that cover a wide variety of topics typically found in the undergraduate chemistry curriculum. Because these exams come from an external source, the current effort involves administering these exams to measure student understanding of chemistry that is expected to have been gained from a formal education in chemistry (such as a high school or college level chemistry course). Furthermore, the assessments are also being administered to gauge which of the current student learning outcomes contained in a respective chemistry course are addressed by a given ACS

exam, which will help the department determine if (a) a different assessment instrument would be more appropriate to assess student learning in a given class, and (b) if the current set of student learning outcomes should be revised to accommodate the particular set of concepts and ideas contained in a given ACS exam.

Physics

In 2012, the physics discipline across the district finalized a multiyear effort to revise and standardize the student learning outcomes (SLOs) of the physics offerings in place at each of the City Colleges. This district-wide effort to develop SLOs was focused on the revision of individual courses and focused primarily on the content within each of the physics courses; in other words, these SLOs describe the abilities and skills a student should have after successfully acquiring an understanding of the physics concepts taught in a given physics course (i.e. classical mechanics, classical electromagnetism, etc.)

Alongside this effort, the physics faculty at Harold Washington College implemented and later revised an assessment plan that has now been in place for several years; the development of this assessment plan was driven in large part to help the Harold Washington physics faculty assess the proposed (and now finalized) SLOs that were being discussed and revised at district-level discipline meetings. The creation of our assessment plan was facilitated by many factors, but some of the most important resources that have informed this assessment effort come from results published by the Physics Education Research (PER) community.

For the past four years, the two full-time faculty members primarily responsible for teaching physics at Harold Washington have implemented the physics discipline assessment plan, which generally involves collecting pre- and post-test data from the appropriate sections of physics courses using the conceptual and attitudinal surveys detailed in Section II of this report. In the fall of 2015, we have expanded these assessment efforts to also include part-time faculty who now regularly teach the opening courses of the algebra-based and calculus-based introductory physics sequence (Physics 221 and Physics 235, respectively). While some of the logistics of administering the pre- and post-tests need to be streamlined to facilitate easier data analysis by the assessment liaisons, these are relatively minor details that are in the process of being addressed with clearer and more precise instructions to the adjunct faculty. While some of the adjunct faculty in physics have expressed some concerns about the amount of class time dedicated to administering the assessment instruments, they have to this date fully participated in the assessment plan by administering the pre- and post-tests and sharing their assessment data with the appropriate faculty in the department.

Assessment Research and Design

Chemistry

As previously mentioned, the assessment tools currently utilized in the 100 and 200-level chemistry courses originate from the ACS Division of Chemical Education, which are comprehensive

instruments intended for summative assessment of undergraduate chemistry students. As such, these instruments are widely used at many institutions to allow comparisons of the performance of students at various points along the typical undergraduate chemistry curriculum; for example, many institutions use these instruments as the final exam for the appropriate chemistry course (e.g. First-Semester General Chemistry or Second-Semester Organic Chemistry). While there are definite advantages for using the ACS exams for assessment at Harold Washington College (i.e. they allow for comparisons to national norms and are quite detailed and thorough in their treatment of the course material), these instruments are quite time-consuming to administer; many of the ACS exams require about 50-60 minutes of class time, and some ACS exams require almost 2 hours to administer. Furthermore, none of the ACS exams can be administered online, which is an increasingly accepted practice in the science education community if the appropriate safeguards to maintain the integrity of the assessment and their results are adhered to. Therefore, while the department is continuing the practice of basing our chemistry assessment practices on ACS exams, we will begin to reconsider the use of these instruments for assessment purposes in the near future, particularly as we begin to analyze the assessment results from Spring 2016.

Some initial research has uncovered alternative instruments that may be suitable for use as pre- and post-test assessments for both Chemistry 121 and Chemistry 201, which together comprise a majority of our course offerings in the chemistry discipline each semester. For example, the Chemistry Conceptual Inventory (CCI) is a 22-question multiple-choice instrument tailored toward students enrolled in the first-semester of general chemistry and was created to elicit responses based on the common alternate conceptions about several important topics discussed in first-semester college chemistry (Mulford & Robinson, 2002). This instrument is widely referenced in the chemical education field, and the smaller number of questions and intended audience would make it easier to administer as a pre- and post-test without involving as much class time as the current ACS exams require.

Physics

As previously mentioned, the assessment instruments used in physics have not been customized or home-grown tools; instead we have been able to take advantage of the research in physics education and utilize instruments that 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. For example, in both Physics 221 (algebra-based classical mechanics) and Physics 235 (calculus-based classical mechanics), we have administered the Force Concept Inventory (FCI) (Hestenes, Wells, & Swackhamer, 1992), which is the most widely used concept inventory to probe student understanding about forces and motion in both secondary and higher education. In the second-semester of the algebra-based physics sequence (Physics 222), the electricity and magnetism portion of the course is surveyed using the Conceptual Survey of Electricity and Magnetism (CSEM) (Maloney, O'Kuma, Hieggelke, & Van Heuvelen, 2001), while in the calculus-based electricity and magnetism course we have used the Brief Electricity and Magnetism Assessment (BEMA) (Ding, Chabay, Sherwood, & Beichner, 2006).

The department 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. In prior years the physics discipline had originally used the Maryland Physics Expectations Survey (MPEX) (Redish, Saul, & Steinberg, 1998) as the probe of student attitudes; over the past two semesters we have replaced the MPEX with a similar instrument that was intended to improve the wording of questions and to probe additional student beliefs about physics. This instrument is commonly known as the CLASS (Colorado Learning Attitudes about Science Survey) (Adams et al., 2006), and variants of this instrument have been developed for other science disciplines such as chemistry and biology. Some of the questions from the CLASS 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", which is a typical analysis method used to compare student attitudes at the beginning and end of a given science course.

Pilot Assessment Tools and Processes

Chemistry

Because of the department's prior experience using the aforementioned ACS exams for various purposes (primarily enabling placement strategies for Chemistry 121 and 201), the repository of ACS exams for other topics in the undergraduate chemistry curriculum was a natural option for the initial round of assessment. However, the chemistry faculty realize that the ACS exams may not be the most suitable instrument for unit- or program-level assessment here at Harold Washington College, which is why the initial results of the assessment will be useful to help the department determine if alternative assessment instruments might be a better fit for our particular student population. In the meantime, the department has standardized on a reproducible procedure for assessing the full array of chemistry courses using the existing ACS exams (which are under constant revision by the chemistry education community). This process is described in the next section, which provides more details about the specific instruments used in a given chemistry course.

Physics

As previously mentioned, the assessment practices of the physics discipline have been in place for some time; the typical assessment process for the semester is to administer the previously described conceptual and attitudinal surveys as both pre- and post-tests. By administering the same instrument at the beginning and end of the semester, matched data sets (i.e. data from students who completed both the pre- and post-test) can be used to quantify learning gains on an individual student basis; however, the department only uses these individual learning gains to determine the average learning gain for a given course (which usually is comprised of a single section with the exception of Physics 221 and 235, which typically involve two sections per semester). In the 2015-

2016 academic year, the department introduced two new assessment instruments to probe student learning in the third-semester calculus-based physics course (Physics 237): the Heat and Temperature Conceptual Evaluation (HTCE) (Thornton & Sokoloff, 2001) and the Quantum Physics Conceptual Survey (QPCS) (Wuttiprom, Sharma, Johnston, Chitaree, & Soankwan, 2009). These newly discovered instruments will now allow the department to claim that every "core" physics course in the discipline has an appropriate research-based instrument suitable for use as a pre- and post-test.

Determining learning gains through pre- and post-testing allows the department to compare our assessment results at Harold Washington with the results that have been published in the literature from comparable institutions. More specifically, we define learning gain in terms of the average *normalized gain* (Hake, 1998) which is a quantitative measure of how much students learned as a percentage of their potential learning:

$$< g > = \frac{< \text{post} > - < \text{pre} >}{100 - < \text{pre} >}$$

where brackets indicate class averages. The normalized gain is commonly described as amount of conceptual knowledge gained by the students divided by the amount they potentially could have learned. By administering the appropriate pre- and post-test in a given physics course, it is possible to calculate the normalized gain for a given physics course; this information can then be used as evidence to support specific curriculum reforms or compare physics programs from one institution to another. More granular analysis can be done to look at normalized gains from a demographic standpoint, which is a common research strategy in the physics education research community. This can allow the department to investigate how the effect of specific curriculum reforms on students based on their gender, prior coursework, educational background, or some other demographic differentiator.

Administer Specific Assessment

Chemistry

During the 2015-2016 academic year, several versions of examinations published by the ACS Examinations Institute were administered at both the beginning and the end of the semester in Chemistry 121, 201, 203, 205, 207, and 212. Each chemistry course was assigned a corresponding exam to be administered before formal instruction that primarily involved material that students would be expected to have learned in the prior chemistry course, with the exception of Chemistry 121, which is a course that requires no previous chemistry instruction and therefore was not assigned a corresponding pretest. An instructive example is the pre-test for Chemistry 201. This course utilizes the ACS Toledo Exam as its pretest; this exam is used as a placement exam at many undergraduate institutions and includes questions that probe mathematical background, general chemistry knowledge, and specific qualitative chemistry knowledge.

Almost all of the relevant chemistry sections chose to participate in the assessment at the beginning of the Spring 2016 semester; the same sections that participated at the start of the semester also agreed to administer a different ACS exam at the end of the semester. The ACS exam selected as a post-test at the end of Spring 2016 had also been previously administered at the end of the Fall 2015 semester. The posttest was also selected from the ACS exam repository of standardized assessment instruments for a particular undergraduate chemistry course and was chosen with the intent of probing what a student had learned in the course they had just completed. Therefore, in many cases the post-test chosen for a given course was used as the pre-test for the subsequent course in the chemistry sequence (e.g. the Chemistry 203 pre-test was also used as the Chemistry 201 post-test).

Because different exams were used as the pre- and post-tests in chemistry, while we can determine the percentage of students who correctly answered a particular question or group of questions that can be clustered together, we cannot directly calculate a normalized learning gain as previously described in the description of the physics assessment plan. However, we can use these instruments to determine a baseline measurement for student understanding on relevant chemistry topics at both the beginning and the end of a given chemistry course, as well as compare our results to national averages of students who took the same exams as part of their undergraduate chemistry curriculum. Further data analysis will help the department determine if the current strategy of using different instruments as pre- and post-tests should be revised in favor of one where we use the same instrument as both the pre- and post-test, which would allow for a direct calculation of normalized learning gain.

Physics

During the 2015-2016 academic year, at Harold Washington College there was at least one section offered of one of the "core" physics courses in either the algebra-based sequence (Physics 221 and Physics 222) or the calculus-based sequence (Physics 235, 236, and 237). Each course administered a pre- and post-test at the beginning and end of the respective semester; the only exception was in the case of Physics 237, which contains three somewhat distinct topics in the course outline that are only loosely connected. Therefore, two pretests were administered in Physics 237: one at the beginning of the semester before the start of formal instruction in thermodynamics (the HTCE), and another one (the QPCS) after ten weeks of instruction had elapsed but before any formal instruction in 20th century physics had begun. Both of these instruments were again administered as post-tests at the end of the semester. Each physics course also administered the CLASS instrument as a pre- and post-test, as the CLASS is intended to survey student attitudes about learning physics independent of the specific physics content addressed in a course.

By administering these instruments as pre- and post-tests, the department is able to directly calculate normalized gains (in the case of the conceptual surveys) or determine attitudinal shifts (in the case of the attitudinal surveys). One opportunity for the department can be to compare and contrast the different approaches to assessment selected by the chemistry and physics discipline and discuss among the department the advantages and disadvantages to each approach.

Data Analysis

Chemistry

A significant amount of student data has been collected at the end of the Spring 2016 semester, and we hope to produce some analysis of this data during the summer of 2016. This analysis will hopefully assist the department in refining our assessment protocol in chemistry before the start of the Fall 2016 semester.

Physics

The analysis of the assessment data gathered during the 2015-2016 academic year is progressing; this analysis has been recently assisted by the discovery of an online tool that will allow for easier data management, assessment scoring, and statistical analysis and visualization. The PhysPort Data Explorer (currently in open beta at http://physport.org/DataExplorer) will also allow the data from Harold Washington College to contribute to a nationwide database of assessment results. These results will help inform physics instructors across the nation make sense of their own results by analyzing and searching for national patterns in assessment data. While we look forward to becoming more familiar with this tool, we can also report on prior results of assessment data in physics.

After determining the normalized gain for the appropriate instrument for either first-semester physics (the FCI) or second-semester physics (either the CSEM or the BEMA, depending on the physics course), we have determined the typical normalized gain in first-semester physics at Harold Washington ranges from 30% (typical for Physics 221) to 45% (typical for Physics 235). 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 demonstrate higher normalized gains (39% on average).

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% on the CSEM (for Physics 222) to 40% on the BEMA (for Physics 236). Once again, the gains shown in the calculus-based sequence 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 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.

Analysis of the attitudinal surveys previously conducted in physics courses at Harold Washington demonstrate that students exhibit the behavior found in most physics classes nationwide at all levels of instruction, 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. These results are independent of the instrument used to probe these beliefs about physics. 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."

Supporting Evidence-Based Change (Use of Findings)

The current state of assessment data in first-semester physics has allowed the physics faculty to identify the need to promote some of the active-learning techniques developed by the PER community (such as peer instruction, clickers, or cooperative problem solving), which have shown to produce higher normalized gains. This is especially true in the case of the Physics 221 course, where enhanced efforts to mentor and support adjunct faculty teaching this course are planned as a direct response to some of our assessment data. Similarly, the difference in performance between the algebra-based and calculus-based physics students on the electricity and magnetism assessments suggests the need to be more proactive about implementing within the Physics 222 curriculum the research-based teaching methods that have shown to produce increased student learning gains. As for the potential reforms in the chemistry discipline, a plan of action will await more detailed analysis of the assessment data that we have collected from the 2015-2016 academic year.

Success Factors

Prior to the start of the 2016-2017 academic year, it is planned for the unit-level liaisons that contributed during the previous academic year to share our assessment results and determine a course of action for both the future assessment activities of the department as well as the dissemination of these results throughout both the department and the college. This will enable us to build on the increased awareness within the department among all faculty about the importance of assessment in the physical sciences.

The recent series of workshops on assessment held on April 8th were also quite productive; both Prof. Philip Vargas and Prof. Anthony Escuadro presented a brief workshop highlighting some of the assessment practices adopted by the Physical Science department. While attendance at the two workshops was light, it seemed that many of the participants were genuinely interested in the types of data analysis we employ to make sense of our assessment data. Many participants also openly asked how these techniques could be employed in their own discipline.

Recommendations

Beyond the aforementioned recommendation of wider dissemination of our assessment practices, one of the main priorities for the department will be to evaluate our assessment processes among the different disciplines, weigh the strengths and weaknesses of the various approaches, and look for opportunities to improve them using the shared knowledge of the department. We also look forward to the prospect of introducing the attitudinal surveys currently used in the physics courses among the chemistry courses as well. This will allow us to expand our plans to look more carefully at the attitudinal results we currently possess from our physics courses to see if there are demographical trends in the shifts of students' beliefs that can inform more targeted curricular reforms.

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BIOLOGY DEPARTMENT

Unit-Level Assessment Liaison Report

Spring 2016

Liaison Project Start Date: Spring 2016

Liaison Report prepared by Aigerim Bizhanova

Department Buy-In and Outcome Definition

At the start of the Spring 2016 semester, our department had a meeting to decide what learning outcomes we would like to assess in the classes we currently offer. Since our department offers a wide range of courses across biological disciplines, 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).

Biology 121 is a general biology course for science majors with a focus on cellular and molecular biology. Biology 114 is a basic biology course designed for non-science majors. Both courses satisfy the General Education Life Sciences requirement for Biology majors and non-majors and are Illinois Articulation Initiative (IAI)-transferrable courses.

After consulting with the faculty in our department, we decided to assess student understanding of cellular organization of living things. Specifically, we would like to assess whether students are able to identify the main cellular components (organelles) and describe their functions. Many biological disciplines such as molecular and cellular biology, genetics, microbiology, human anatomy, and physiology build upon understanding of the main components of a cell and their functions. In addition to being one of the student learning outcomes for Biology 121 and Biology 114, identification and description of cellular organelles is also listed as one of the biology program-level outcomes at many two- and four-year schools across the country.

Assessment Research and Design

Biology 121 is a pre-requisite for Biology 122 (Biology II), Biology 209 (Biochemistry), Biology 226 and 227 (Human Structure function I and II), Biology 250 (Introduction to Molecular Biology), and Biology 251 (Molecular Biology I). Our department came to consensus that one of the main learning goals in Biology 121 is understanding the main components of a cell and their functional significance. In order to assess students' understanding of cells and their organization, the following learning outcomes from Biology 121 and Biology 114 were selected:

- Identify the main cellular organelles
- Describe their functions in a cell

Once the learning outcomes were selected, our department unit-level assessment liaison (Aigerim Bizhanova) was given a task to design a pilot assessment tool.

Pilot Assessment Tools and Processes

After reviewing assessment tools on cells and cellular organization, available on the website of the American Association for the Advancement of Science (AAAA) at http://assessment.aaas.org, a pilot assessment was designed. The pilot assessment is composed of several multiple-choice questions and a diagram of a cell (Appendix A). Some of the multiple-choice questions were taken from the AAAA website and modified to be aligned with the learning outcome. Other questions, including the cell diagram, were designed from scratch. The multiple choice questions ask students to identify organelles involved in various processes, such as protein production, metabolic function, transport, and storage and transmission of genetic information in a cell. The diagram of a cell asks students to identify main cellular components and match them with molecules that are associated with them.

The assessment rubric was designed to rate student performance on each question of the pilot assessment (Appendix B) The rubric was designed following discussion with the Vice-Chair of Unit-Level Assessment, Erica McCormack, and reviewing literature on rubric design.

Administer Specific Assessment

The pilot assessment will be administered to 4 sections of Biology 121 and 2 sections of Biology 114 before the end of Spring 2016 semester (during weeks 14 and 15). Instructions on how to administer the pilot assessment along with an explanation of why it is important were given to all faculty who volunteered their class sections. Students were also given instructions on how to complete the pilot assessment and an explanation of why they are taking the assessment. The time allotted for taking the pilot assessment was 20 minutes.

Data Analysis

We are hoping to obtain a good sample size (approximately 115 students) in order to perform data analysis using the analytics tool OpenBook. This will hopefully give us some useful insights to adjust the tool and perform a full-scale assessment with a bigger sample size in the coming Fall 2016 semester.

Supporting Evidence-Based Change (Use of Findings)

The results of the pilot assessment will be presented to the faculty of our department in the fall of 2016 in order to receive feedback and suggestions. Based on the feedback/suggestions given by the faculty, the next steps will be determined.

Success Factors

This semester is the first semester that our department had a unit-level liaison. Therefore it is an exciting opportunity for our department to start assessing how our students learn. Thanks to several meetings we had in the department to talk about assessment, more faculty are now aware of the way the assessment process is done at Harold Washington College. There is an increasing level of interest in assessment among the faculty in the department, which has led to many engaging and meaningful conversations about what we want our students to learn about biology.

Recommendations

Recommendations for our next steps will be given based on the analysis of the results from the pilot assessment and upcoming faculty discussions. The results of pilot assessment analysis will be presented to faculty at the first department meeting in fall 2016. It is recommended that for the full-scale assessment in fall 2016, students are provided scantron sheets to answer multiple-choice portion of the assessment. This will make scoring of the assessment results faster and efficient.

Appendix A: Pilot Assessment Tool

Choose the one alternative that best completes the statement or answers the question

1. What structure is responsible for making proteins for various cell functions?
A) Nucleus
B) Ribosome
C) Lysosome
D) Plasma membrane
E) Smooth endoplasmic reticulum

2. An organelle called the _____ provides a place for many proteins that are destined to be released from a cell, to fold into their 3-D shape.
A) nucleus
B) mitochondrion
C) Golgi apparatus
D) rough endoplasmic reticulum
E) smooth endoplasmic reticulum

3. The _____ receives macromolecules, modifies and sorts them, then sends them to their final destination.
A) nucleus
B) mitochondrion
C) Golgi apparatus
D) rough endoplasmic reticulum
E) smooth endoplasmic reticulum

4. An organelle called the _____ produces many types of lipids for various cell functions.
A) nucleus
B) mitochondrion
C) Golgi apparatus
D) rough endoplasmic reticulum
E) smooth endoplasmic reticulum

5. A _____ contains enzymes designed to break down macromolecules and food particles.
A) nucleus
B) lysosome
C) cytoskeleton
D) Golgi apparatus
E) smooth endoplasmic reticulum

6. The _____ is responsible for most of energy production in eukaryotic cells.
A) nucleus
B) mitochondrion
C) Golgi apparatus

D) rough endoplasmic reticulum
E) smooth endoplasmic reticulum

7. Which of the following is true about the nucleus?
A) it produces and stores lipids
B) it contains and protects DNA
C) It ships molecules to their final destination
D) All of the above
E) None of the above

8. Which process or processes occur in the nucleus?
A) transcription and translation of RNA
B) DNA replication and transcription
C) DNA replication, transcription, and translation
D) transcription
E) DNA replication

9. Which of the following statements is false about plasma membranes?
A) Plasma membranes serve as barriers
B) Plasma membranes are found in all cells
C) All molecules easily pass through the plasma membrane
D) A plasma membrane contains two phospholipid bilayers
E) None of the above

10. Below is a picture of an animal cell. Identify the cellular structures for A, B and C. Next match up the cellular structure with the macromolecule or molecule associated with that structure (i.e this molecule or macromolecule either makes up each cellular structure or is produced there).

Cellular structure A: _____

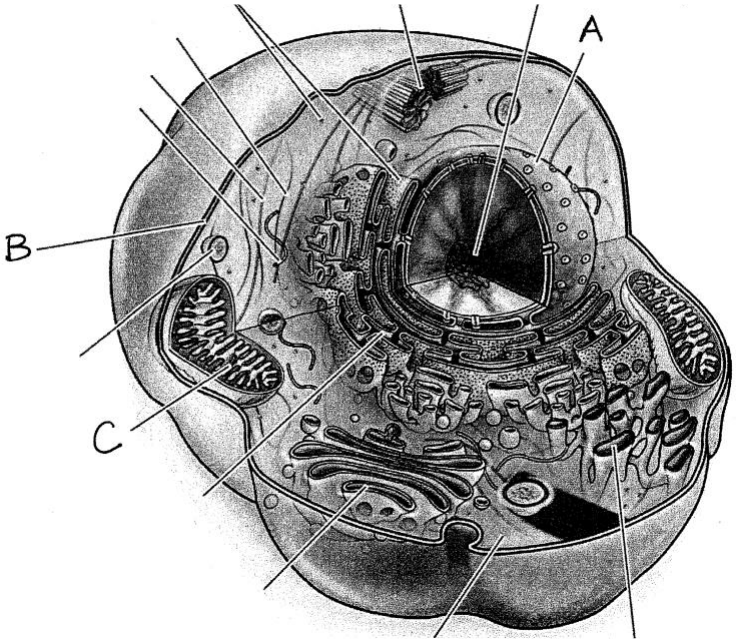
Associated molecule for A: _____

Cellular structure B: _____

Associated molecule for B: _____

Cellular structure C: _____

Associated molecule for C: _____



Appendix B: Scoring Rubric

CATEGORY	Meets outcome	Emerging skills		Does not meet outcome
	3 pts	2 pts	1 pt	0 pts
Protein production and processing **(questions #1, 2, 3)**	Student provides the correct functions for all three organelles involved in protein production and processing	Student provides the correct functions for two of the three organelles involved in protein production and processing	Student provides the correct function for one of the three organelles involved in protein production and processing	Student fails to provide the correct functions for any of the three organelles involved in protein production and processing
Metabolic functions **(questions #4, 5, 6)**	Student correctly describes functions of all three organelles involved in metabolic functions of a cell	Student correctly describes functions of two of the three organelles involved in metabolic functions of a cell	Student correctly describes function of one of the three organelles involved in metabolic functions of a cell	Students fails to correctly describe functions of any of the three organelles involved in metabolic functions of a cell
Nucleus and its functions **(questions # 7, 8)**	Student correctly identifies the function of nucleus and names two processes (DNA replication and transcription) that happen in nucleus	Student correctly identifies the function of nucleus and names one of the two processes that happen in nucleus	Student correctly identifies the function of nucleus and/or correctly names one of the two processes that happen in nucleus	Students fails to identify the function of nucleus and describe any of the two processes that happen in nucleus
Structure and functions of plasma membrane **(question #9)**	Student correctly describes the structure, function of plasma membrane and the presence of plasma membrane in all cells.	Student correctly describes the structure and function of plasma membrane but fails to identify the presence of plasma membrane in all cells	Student correctly describes the structure or function or the presence of plasma membrane in all cells	Student fails to correctly describe the structure, function of plasma membrane and the presence of plasma membrane in all cells
Identifying organelles shown on the cell diagram and describing their composition (question #10, cell diagram)	Student correctly identifies all three organelles shown on the cell diagram and accurately describes composition of all three organelles	Student correctly identifies 2 of the three organelles shown on the cell diagram and accurately describes composition of two of the three organelles	Student correctly identifies one or two of the three organelles shown on the cell diagram and/or accurately describes composition of one or two of the three organelles	Student fails to correctly identify any of the three organelles shown on the cell diagram and accurately describe composition of any of the three organelles

MATHEMATICS DEPARTMENT

Unit-Level Assessment Liaison Report

Spring 2016

Liaison Project Start Date (Semester/Year): Spring 2015

Liaison Report prepared by Fernando Miranda-Mendoza

Department Buy-In and Outcome Definition

The unit-level work that we began in the spring 2015 term was continued throughout the 2015-2016 academic year. During the spring 2015 semester, a pilot assessment tool was developed and administered to a couple of sections of Math 207 (Calculus and Analytic Geometry I). The main goal of this unit assessment was to determine if students in Math 207 have any mathematical deficiencies at either the developmental, college algebra, or calculus level. Proficiency at all these levels is essential for student success in Math 207. Anecdotal evidence suggests that students struggle with prerequisite skills, yet they are able to understand calculus-level concepts. It is hoped that this project will shed some light on this paradox and will help us understand our students better.

We decided to focus on assessing the following two student learning outcomes from Math 207:

A. "Apply derivatives to problems involving optimization and related rates."
B. "Analyze the behavior of functions and their graphs using first and second derivatives (e.g., determine local and absolute extrema, concavity, and inflection points)."

These two student learning outcomes represent the type of skills that a successful calculus student must demonstrate at the end of Math 207. Moreover, both outcomes require a thorough understanding of basic, intermediate, and college algebra skills (learned in Math 99 and Math 140).

Assessment Research and Design

Students meet outcome A when they can apply the calculus concept of "derivative" to "optimization" problems. Optimization problems are usually exemplified by applied settings, where students need to translate a real-world problem into mathematical terms and use algebraic and calculus skills to achieve a final conclusion. The second outcome

(outcome B) is met by applying similar ideas to those from outcome A, but the analysis of graphs does not necessarily involve an applied setting.

Faculty suggested that we design an assessment so that students can work through an applied (real-world) problem even if they cannot translate the sentences from the applied setting into the correct mathematical terms and equations. This suggestion was made due to the possible issues that our students (some of whom are non-native English speakers) may have with the description of a real world scenario. We followed this suggestion in the development of the pilot and kept it in the revised version of our assessment tool.

Pilot Assessment Tools and Processes

During the spring 2015 semester, we developed a pilot assessment tool. This tool was a short quiz with two main questions, each question based on one of the two student learning outcomes selected. The first question is a purely mathematical problem that assesses outcome B (on the "behavior of functions and their graphs"). The second question is an application (real-world) problem written to assess outcome A (on "optimization").

After the spring 2015 pilot results were received and analyzed, 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 in an evaluative capacity (see Appendices A and C). 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) in the pilot: "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, with helpful feedback from the liaison coordinator, the scoring rubric was modified to account for insightful answers that are correct but do not quite follow calculus methods (see Appendix B). 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. Math instructors were interested in finding out more detail about the variety of ways in which a student's answer could be "incorrect," so the more detailed rubric is allowing us to capture more complex and meaningful information about student learning as it relates to these two outcomes.

Finally, the language used on the second applied question of the assessment tool has been modified to make it clearer and avoid some apparent confusion on the pilot (see Appendix A). On the pilot, many student responses in the last part did not correspond to the question

(they should have provided the “dimensions” of an area, width and length, but instead gave only one dimension, the area, or another unrelated quantity).

Administer Specific Assessment

The pilot assessment was administered in a couple of sections of Math 207 at the end of the Spring 2015 semester. We will be running a revised version of the assessment tool at the end of Spring 2016 in at least four sections of Math 207. As with the pilot assessment, faculty volunteers will be running this revised version of the assessment during the last weeks of the semester (weeks 14, 15, and 16). We hope to obtain a large enough sample size in order to draw significant conclusions from the data.

Data Analysis

The data analysis of the pilot assessment’s results was completed during the 2015-2016 academic year. The sample from the pilot assessment consisted of 38 students from two sections of Math 207. As it is evident from the distribution of scores (see Figure 1), overall, students performed well. The proportion of students meeting the learning outcomes was 58% (a student met the assessment outcomes if his/her overall score was 12 points or greater). They obtained high scores on the first purely mathematical question (see Figure 2). Nevertheless, many students performed poorly on the second applied “calculus optimization” question. 45% of them scored fewer than 6 points in that question and, consequently, did not meet the outcome (see Figure 3). Some responses indicate that students may have misunderstood the wording of 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.

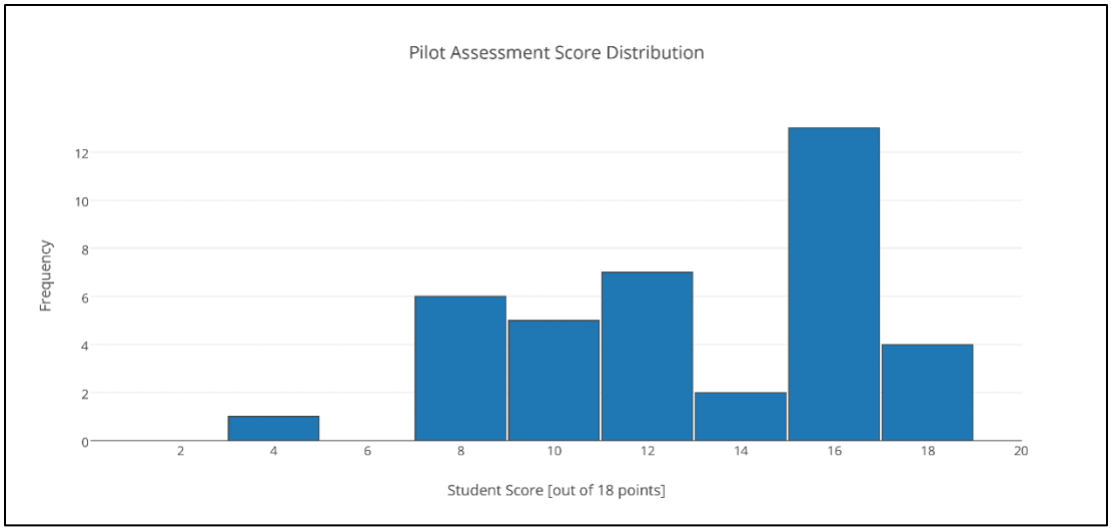


Figure 1: Distribution of scores

OpenBook data was finally incorporated into the pilot's results this semester. Out of the original 38 students that took the assessment pilot, only 35 had valid student IDs. The missing three students provided an incorrect ID number either on purpose (one student ID appeared to be made up) or by accident. We hope that students who volunteer in the future are confident that the assessment tool does not affect their class performance and will therefore provide accurate ID numbers.

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 (9 in total) 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 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.

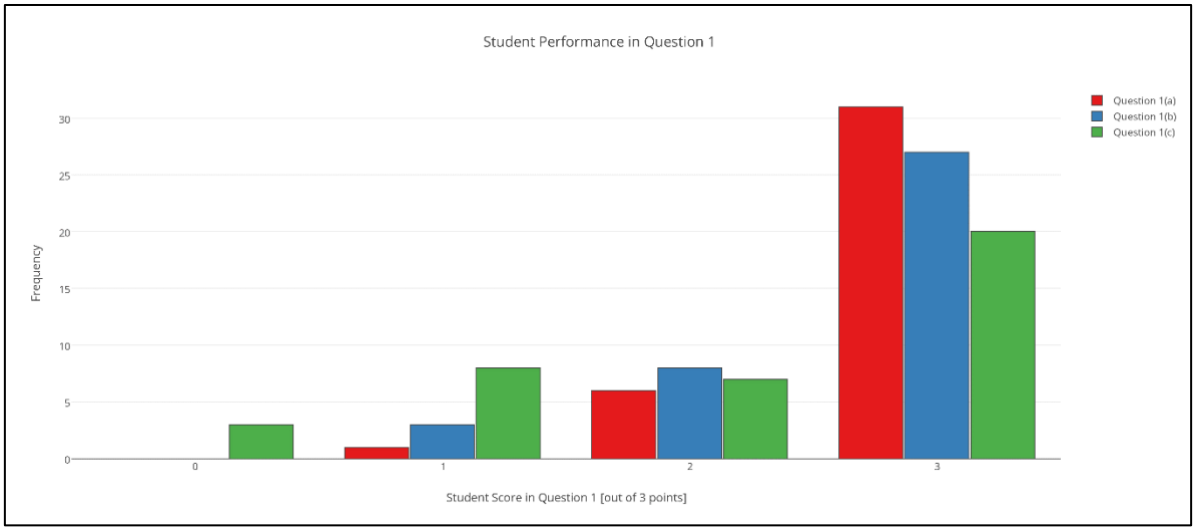


Figure 2: Distribution of scores in Question 1

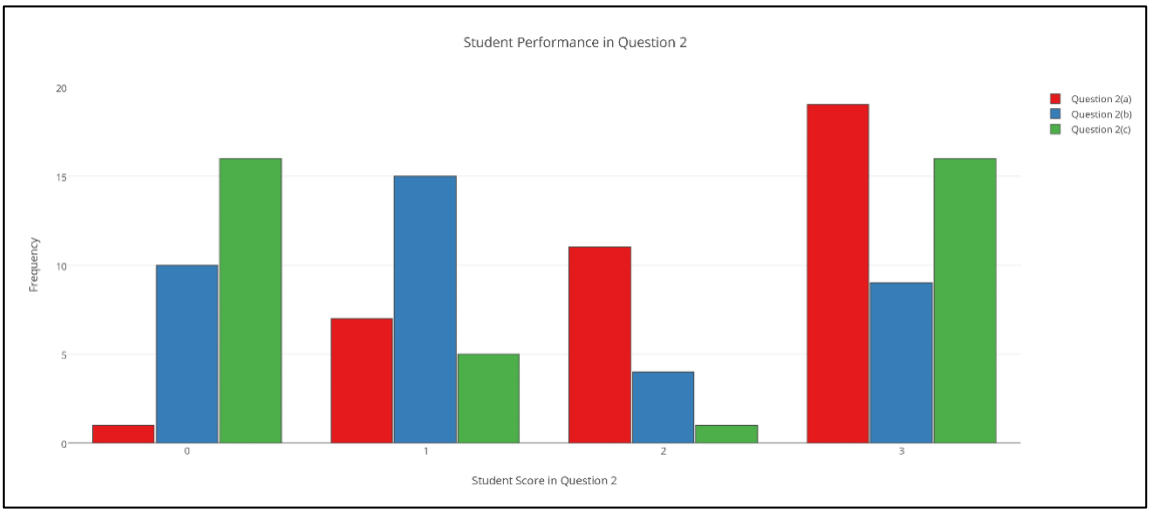


Figure 3: Distribution of scores in Question 2

The data analysis presented here is just a basic exploratory look at the results of the pilot assessment. A more detailed and deep analysis will be performed on the data that we will collect this semester with the full scale assessment.

Supporting Evidence-Based Change (Use of Findings)

Even though it is still too early to draw a definite conclusion, based on the spring 2015 pilot results, we suspect that Math 207 students struggle with applied problems. We hope that the few minor modifications we made to the tool and the instructions will help students better understand the applied question. We will have to wait for the results of the bigger assessment this semester before we make further concrete conclusions.

Success Factors

Overall, the biggest success factor has definitely been the increased awareness of assessment in the Math Department, especially among adjuncts. This semester, one of the faculty volunteers is an adjunct instructor who eagerly volunteered his section and took time to learn more about the assessment activities in our department.

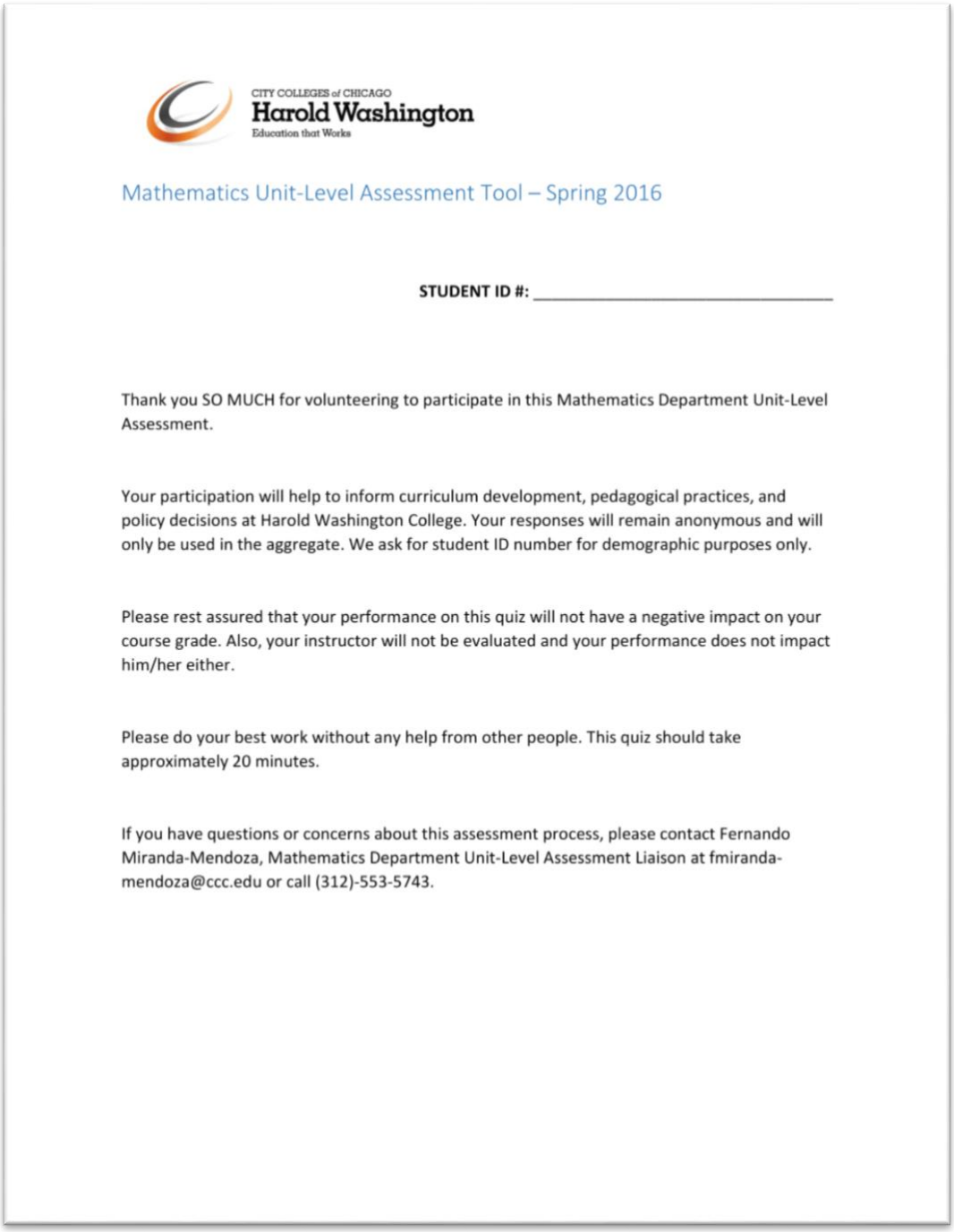
Spring 2015 was the first semester our department engaged in unit-level assessment. Since then, we have now developed a basic assessment framework that we expect will be refined in future departmental unit-level assessment projects.

Recommendations

Recommendations for our next steps will be given based on the analysis of the results from the full-scale assessment this semester and subsequent faculty discussions.

Finally, during the academic year, our department had regular conversations regarding the possible disappearance of the developmental math classes (Math 98 and 99). Some modified pilot classes will be run over the summer and fall semesters this year. A new unit-level assessment project based on these modified classes may begin next semester.

Appendix A: Revised Assessment Tool



CITY COLLEGES of CHICAGO
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Mathematics Unit-Level Assessment Tool – Spring 2016

STUDENT ID #: _____

Thank you SO MUCH for volunteering to participate in this Mathematics Department Unit-Level Assessment.

Your participation will help to inform curriculum development, pedagogical practices, and policy decisions at Harold Washington College. Your responses will remain anonymous and will only be used in the aggregate. We ask for student ID number for demographic purposes only.

Please rest assured that your performance on this quiz will not have a negative impact on your course grade. Also, your instructor will not be evaluated and your performance does not impact him/her either.

Please do your best work without any help from other people. This quiz should take approximately 20 minutes.

If you have questions or concerns about this assessment process, please contact Fernando Miranda-Mendoza, Mathematics Department Unit-Level Assessment Liaison at fmiranda-mendoza@ccc.edu or call (312)-553-5743.

CITY COLLEGES of CHICAGO
Harold Washington
Education that Works

Math 207 **Unit-level Assessment**

---

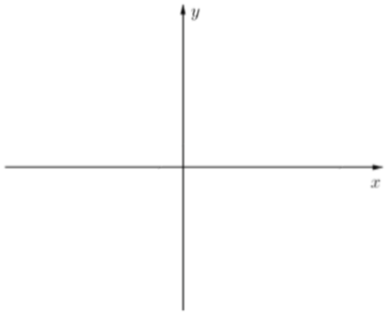
1. The derivative of a function $f(x)$ is

$$f'(x) = x^2 - 5x + 6.$$

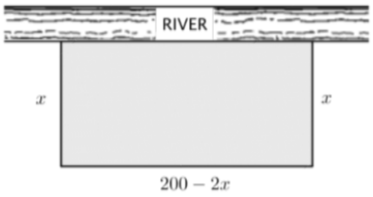
(a) Solve the equation $x^2 - 5x + 6 = 0$ to find all the critical numbers of $f(x)$.

(b) Find the intervals where the graph of the function $f(x)$ is increasing and decreasing.

(c) Sketch the graph of $f(x)$ on the xy-plane below. Label all the critical numbers on the x-axis. Do not try to find any other values.



2. A farmer has 200 feet of fencing material and needs to fence off a rectangular field that borders a straight river. He needs no fence along the river (see the figure below). Let x be the length of the rectangular field. Then the area of this field is given by the function $A(x) = x(200-2x)$.



(a) Find the critical numbers of the function $A(x)$.

(b) Find the value(s) of x that give rise to the maximum area. Use calculus concepts to justify your solution.

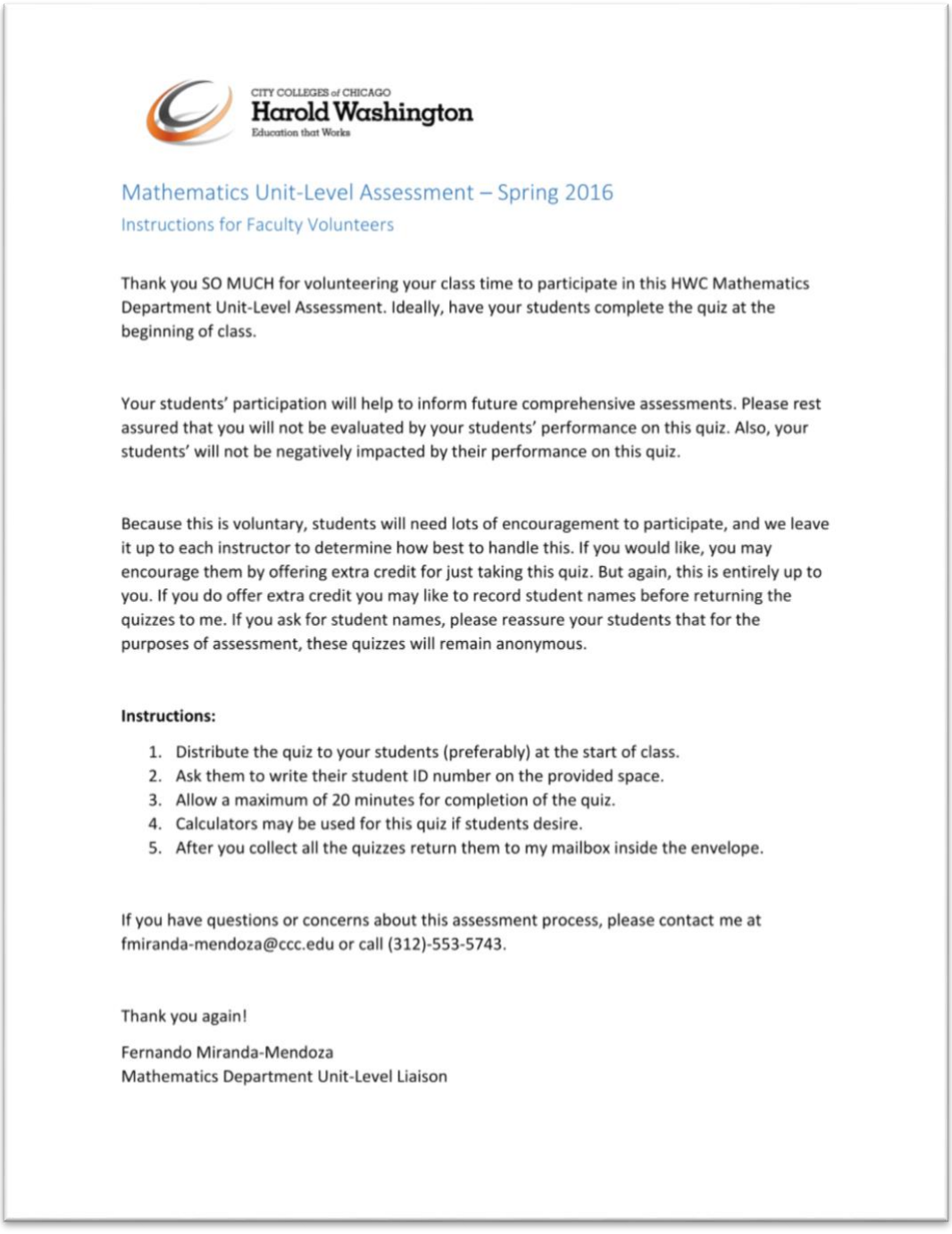
(c) What are the dimensions of the field with the largest area? That is to say, find the base (width) and height (length) of the largest rectangular area.

Appendix B: Revised Scoring Rubric

	3: Calculus skills	**2: College algebra skills**	**1: Developmental skills**	**0: No attempt**
Conceptual understanding	Conceptual understanding apparent. Correct use of calculus concepts.	Conceptual understanding only adequate. Slight misuse of calculus concepts.	Conceptual understanding totally lacking. No use of calculus concepts.	Does not attempt problem.
Notation	Consistent notation, with only an occasional error (minor arithmetic/algebraic errors, for example).	Some consistent notation, but with several errors (arithmetic/algebraic errors, for example).	Inconsistent or incoherent notation.	Does not attempt problem.
Logic	Logical formulation is complete with only an occasional error.	Some logical steps lacking.	Logical or relational steps missing.	Does not attempt problem.
Solution method	Complete or near-complete solution (missing only some arithmetic/algebraic simplifications, for example).	Careless mathematical errors present (arithmetic/algebraic errors, for example).	Procedural errors or correct final answer is found by using purely algebraic/arithmetic methods (simulating values, looking at graphs, for example).	Does not attempt problem

Source: Emert, John W., and Charles R. Parish. "Undergraduate Core Assessment in the Mathematical Sciences." *MAA Notes* 49 (1999): 46-48. Print.

Appendix C: Instructions for Faculty Volunteers



CITY COLLEGES of CHICAGO
Harold Washington
Education that Works

Mathematics Unit-Level Assessment – Spring 2016

Instructions for Faculty Volunteers

Thank you SO MUCH for volunteering your class time to participate in this HWC Mathematics Department Unit-Level Assessment. Ideally, have your students complete the quiz at the beginning of class.

Your students' participation will help to inform future comprehensive assessments. Please rest assured that you will not be evaluated by your students' performance on this quiz. Also, your students' will not be negatively impacted by their performance on this quiz.

Because this is voluntary, students will need lots of encouragement to participate, and we leave it up to each instructor to determine how best to handle this. If you would like, you may encourage them by offering extra credit for just taking this quiz. But again, this is entirely up to you. If you do offer extra credit you may like to record student names before returning the quizzes to me. If you ask for student names, please reassure your students that for the purposes of assessment, these quizzes will remain anonymous.

Instructions:

1. Distribute the quiz to your students (preferably) at the start of class.
2. Ask them to write their student ID number on the provided space.
3. Allow a maximum of 20 minutes for completion of the quiz.
4. Calculators may be used for this quiz if students desire.
5. After you collect all the quizzes return them to my mailbox inside the envelope.

If you have questions or concerns about this assessment process, please contact me at fmiranda-mendoza@ccc.edu or call (312)-553-5743.

Thank you again!

Fernando Miranda-Mendoza
Mathematics Department Unit-Level Liaison

APPLIED SCIENCES DEPARTMENT

Unit-Level Assessment Liaison Report

Spring 2016

Liaison Project Start Date (Semester/Year): AC 2015-2016

Liaison Report prepared by Jen Asimow

Department Buy-In and Outcome Definition

Child Development

Unit-level assessment in the Applied Sciences Department began with a collection and analysis of data collected in the Child Development program from January 1, 2015 – December 31, 2015. We assessed student growth in conducting observations of children and making 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.

Assessment of Learning in Online CD Courses

In February, the annual NAEYC report was submitted to the local administration for approval. After approval at the local level, the report was sent to the District for further approval. It was eventually submitted to the NAEYC office by the March 31st due date. It was then decided that the next logical step in unit-level assessment would be to look carefully at learning in the online child development courses.

Several years ago, four online child development courses (CD 107, 120, 149, and 142) were developed and offered through the Child Development program in conjunction with the CDA program at HWC. Prior to that time, only one online child development course (CD 101) was available through the Center for Distance Learning. Since that time, an additional course (CD 248) has been designed and offered online.

Assessment Research and Design

Child Development

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.

Assessment of Learning in Online CD Courses

During the 15th week of the semester, the survey (Appendix A) was administered to all students currently enrolled in an online child development course. Data will be collected over the summer and analyzed in early fall 2016.

Pilot Assessment Tools and Processes

Assessment of Learning in Online CD Courses

After lengthy discussions with all full-time child development faculty and a literature review of current best practice in assessment of learning in online courses, it was decided to develop a survey to be administered by the current faculty who teach the online courses in child development.

The faculty reviewed the survey questions and edited it. It then went to assessment committee members for review, most importantly to the Unit-Level Liaison Coordinator, who provided feedback and edits.

Administer Specific Assessment

Child Development

Assessment of learning in the Child Development program is ongoing. Each semester faculty collect assessment data.

Assessment of Learning in Online CD Courses

At the end of the spring semester, four faculty members administered the survey to students in the online child development courses. To date, 85 surveys have been completed.

Data Analysis

Child Development

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 Fall sections of CD101 and 258 with 95% of students meeting the standard for an observational and interpretation assignment by their completion of the program.

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.

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.

Supporting Evidence-Based Change (Use of Findings)

Child Development

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 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.

Success Factors

Assessment of Learning in Online CD Courses

The success of the pilot will be determined by a few factors:

1. Response rate of students asked to complete the survey.
    a. A sample letter was sent to the faculty encouraging students to participate. Suggestions were made to offer extra credit or participation points for completion.
    b. Will the response rate provide enough data to be meaningful?
    c. Will the responses provide a representative sample of students in online child development courses?
2. Survey questions:
    a. Do the questions reveal information about learning?

Recommendations

Assessment of Learning in Online CD Courses

Working with the online learning community at HWC, next year we will use the data revealed in the pilot to improve the survey and to expand the project.

Appendix A: Survey of Learning in Online Child Development Courses

Please answer the following questions as honestly and as carefully as possible. This survey is anonymous, however we are asking for student ID #s in order to assure participants are current students in online CD courses.

* Required

1. What is your student ID#? *

All CCC students have a 9-digit ID#. Be sure to include all 9 digits, including 0s.

Your answer

2. Have you taken (or are you currently taking) any face-to-face child development courses? *

Choose

Yes

No (If "No" students are taken to the "Thank you and Submit Survey" page.

Self-Assessment of Learning in Online Child Development Courses

The following questions pertain to the online CD course you are currently taking.

1.Compared to your face-to-face CD course(s), rate your learning in this course. *

Much less than in my face-to-face course(s).

Less learning than in my face-to-face course(s).

About the same as in my face-to-face course(s).

More learning than in my face-to-face course(s).

Much more learning than in my face-to-face course(s).

Comments
Your answer

2. Compared to your face-to-face CD course(s), rate your level of personal activity in this course. *

Personal activities include but are not limited to: reading, interacting with other students, the instructor and learning materials, studying, writing, researching, etc.

Much less than in face-to-face courses

Less than in face-to-face courses

About the same as in face-to face courses.

More than in face-to-face courses

Much more than in face-to-face courses

Comments

3. Rate the following elements of this online course related to your learning *

1= This element did not support my learning at all 5= This element supported my learning a great deal, N/A

Quizzes

Videos

Collaborate Sessions

General Course Design

The Textbook

Feedback from fellow students

Feedback from the instructor

Ease of Navigation

Ease of Technology

Group Discussions

Comments

4. Compared to your face-to-face course(s), rate the frequency of your interactions with your instructor. *

Much less interaction than in my face-to-face course(s).

Less interaction than in my face-to-face course(s).

About the same amount of interaction as in my face-to-face course(s).

More interaction than in my face-to-face course(s).

Much more interaction than in my face-to-face course(s).

Comments

Your answer

5. Did your interactions with your instructor help support your learning in this course? *

Not at all

Somewhat

Quite a bit

Very much

Comments
Your answer

6. Compared to your face-to-face course(s), rate the frequency of your interactions with your classmates. *

Much less interaction than in my face-to-face course(s).

Less interaction than in my face-to-face course(s).

About the same amount of interaction as in my face-to-face course(s)

More interaction than in my face-to-face course(s).

Much more interaction than in my face-to-face course(s).

Comments
Your answer

7. Did your interactions with your classmates help support your learning in this course. *

Not at all

Somewhat

Quite a bit

Very much

Comments
Your answer

8. Rate the following qualities of instructor interactions. *

1=This quality did not support my learning at all 5=This quality supported my learning a great deal, The Instructor Did Not Do This

Frequency of interactions

Speed of responsiveness

Quality of feedback

Accommodation of differing learning styles

Courteousness of interactions

Responsiveness to unique adult learner issues

Clarity of expectations

Providing a positive atmosphere

Clarity of expectations

Providing a positive atmosphere

Comments
Your answer

ART & ARCHITECTURE DEPARTMENT

Unit-Level Assessment Liaison Report

Spring 2016

Liaison Project Start Date (Semester/Year): Spring 2016

Liaison Report prepared by Jess Bader

Department Buy-In and Outcome Definition

In recent semesters there has been interest among some in the Department of Art and Architecture about assessment. Those who have taken an interest in studying assessment began discussing the possibilities of assessing specific disciplines. Out of these conversations, it was decided that Art 196 (Beginning Ceramics), would be ideal to create an assessment tool because there are four sections offered each semester. It was also determined that a coordinating assessment tool for Art 197 (Advanced Ceramics & Sculpture) would be valuable to study the skills that are reintroduced at that level and developed at that point in the student's art education experience.

Art faculty determined that I (as the unit-level liaison, filling in this role during Prof. Paul Wandless' sabbatical) would develop an assessment tool for the Art 197 Advanced Ceramics class, working with the student learning outcome "Construct projects that demonstrate advanced technical skills in the manipulation of clay." This SLO aligns well with the potential program level outcome "Demonstrate competence in the application of a broad range of technical skills for the fine arts disciplines with appropriate tools, materials and mediums."

In addition to developing this particular assessment, I also worked to encourage intra-departmental dialogue around assessment. I had an opportunity to work with the Department of Art & Architecture (DAA) instructors who conduct assessments in beginning drawing and two-dimensional design, and we had various discussions about the importance of assessment. Out of these conversations, I encouraged the instructors to attend the professional development day on April 8th that had so much great information about assessment. The two teachers in the DAA that I recommended attend the professional day did! We all agree that the April 8th meeting was a conduit to start the conversation and offer a great resource for teachers who want to know about assessment.

Assessment Research and Design

The Department of Art and Architecture has the perspective that we offer a 2-year foundations program that emphasizes skill development. It was for this reason that the student learning outcome "Construct projects that demonstrate advanced technical skills in the manipulation of clay" was an appropriate SLO to use as a basis for the assessment tool.

The Art 197 special section: "The Potter's Wheel" focuses on creating thrown objects on the Potter's Wheel. The assessment this report focuses on examines this skill set. When one creates or throws an object on the potter's wheel, almost every form begins as a cylinder. Beginning with a cylindrical form helps control the vessel's wall thickness, proportions, and affects how well crafted the object is. Because this is such an important form and is the basis for most objects created on the wheel, it was thought it would be an ideal focal point for this assessment.

Once it was established that the cylinder would be used as the artifact for skill assessment of students, the rubric needed to be configured. To begin, a list was developed based on what were important parameters – height, width, wall thickness, bottom thickness, base, rim and craft. After these criteria were identified, a detailed rubric and corresponding point system were created so that the cylinders could be assessed uniformly by multiple instructors in the future (Appendix A).

It was intended that the point system would establish if the student had exceeded the outcome - 4 points; met the outcome - 3 points; demonstrated room for growth toward the outcome – 2 points; or not met the outcome – 1 point.

III. Pilot Assessment Tools and Processes

The pilot has not officially been run, but the intention is to do so in the Fall of 2016. The process involves the created rubric and each student having 2 hours and 5 pounds of clay. It is with this amount of material and time that a student would have the time and materials to create an ideal cylinder for their level of expertise. This pilot will be conducted at the end of the Fall 2016 semester.

IV. Administer Specific Assessment

This pilot will be conducted in one section of ART 197 special section: The Potter's Wheel at the end of the 2016 Fall semester.

V. Data Analysis

It is hopeful that this will yield data that will enable us to look at how students are developing their ceramics skills as they move through the Ceramics program.

VI. Supporting Evidence-Based Change (Use of Findings)

In Fall 2016 the Art 197 Special Section: The Potter's Wheel assessment pilot will run for the first time in one section. The results of the 197 assessment pilot will be available for the Department of Art and Architecture and the Assessment Committee for the beginning of the Spring 2017 semester.

Success Factors

The success of assessment efforts at the college and within the department of Art & Architecture has been very good this semester. At the department level, colleagues and I continue to discuss what assessment is and how we can use it to create a better program by studying what students are learning.

At the college level, the professional day in April was a tremendous resource for seasoned and new faculty of all disciplines. Even in having a conversation with Chair Middleton of the CCC Board he expressed how much he liked the work of assessment because the data is so specific about student learning and comes from a broad range of our student population compared to other groups of measurement such at the IPEDs.

Recommendations

The next part of the sequence for the 197 pilot is to run it in the Fall of 2016. The data will be reviewed and shared with the rest of the faculty during a regularly scheduled department meeting for the Department of Art and Architecture in Spring of 2017

Appendix A: Art 197 Advanced Ceramics Assessment Rubric Instructions

Cylinder measurements and requirements for 5 lb clay: *Height*: 8 inch (minimum); *Width*: 4 inch (minimum); *Wall Thickness*: ¼ inch on top and can taper out to 3/8 inch at bottom; *Bottom Thickness*: ¼-3/8 inch; *Base*: 30- or 60-degree range; *Rim*: compressed; and *Craftsmanship*: smooth

Vessel will be cut in half with a wire tool to assess measurements.

Rubric	**4 Exceeded**	**3 Met**	**2 Room For Growth**	**1 Not Met**
Height	over 10" height	8" in height	6" height	less than 4" height
Width	over 4"- 5" width	4"- 5" width	4" width	less than 3" width
Walls	less than 1/4" in width on top less than 3/8" at bottom	1/4" width on top 3/8-3/4" at bottom	1/4" up to 3/8 width on top 3/8" up to 1" at bottom	more than 3/8" width on top more than 1" at bottom
Bottom	less than 1/4" in thickness	between 1/4" - 3/8" thickness	between 3/8" - 1/2" thickness	more than 1/2" thickness
Base	40 - 50 degree bevel	30 or 60 degree range bevel	10 or 80 degree range bevel	Did not trim
Rim	Compressed and level	Compressed and slightly uneven	Not full compressed and uneven	Not compressed and uneven.
Craftsmanship	Inside/outside surfaces are smooth, no slurry present, cleanly cut bevel	One of the surfaces are smooth, marginal slurry present, uneven cut bevel	Neither surface is smooth, slurry present, jagged cut bevel	All surfaces are rough, or textured, lots of slurry present, jagged or uncut bevel

Liaison Project Start Date (Semester/Year): Spring 2016

Liaison Report prepared by Janette Gayle

I. Department Buy-In and Outcome Definition

The unit level assessment project for the Social Science Department (SSD) 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 at HWC (U.S., African American, Latin American, African, and World History), 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 are emailed to History faculty members in order to keep them abreast of the committee's progress.

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) distinguish between primary and secondary sources and properly cite them; (3) use primary and secondary sources to support an argument; (4) understand and identify the factors that cause change and continuity over time; (5) demonstrate knowledge of specific historical content and context.

II. Assessment Research and Design

The steering committee created a rubric to determine measureable outcomes. The steering committee then engaged in a process of refining the rubric. Based on feedback from members of the Assessment Committee as well as faculty who attended the Assessment Workshop at Harold Washington College in April 2016, it was decided to narrow the focus

of this particular assessment to three of those five outcomes and to adjust the scope of the rubric accordingly to measure students' ability to: (1) Craft a thesis statement; (2) Distinguish between primary and secondary sources and properly cite them; and (3) use primary and secondary sources to support an argument. Each skill is assessed along four levels of achievement: Exceeds expectations – 3 points; Meets expectations – 2 points; Emerging skills – 1 point; Does Not Meet Expectation – 0 points (Appendix A).

III. Pilot Assessment Tools and Processes

The pilot project was launched in the final two weeks of spring 2016 semester and will use the rubric to assess students' final essays in the following courses:
History 111 sections D & WW2 (US History Survey I)
History 112 sections C & E (US History Survey II)
History 115 sections K & Q (African American History Survey II)
Approximately 100 students will be part of the pilot project, so we are hopeful that the pilot will generate statistically significant data.

IV. Administer Specific Assessment

Using the rubric, each professor will assess only their students' essays. There was a norming session to make sure that the professors are applying the rubric consistently. However, it must be borne in mind that as History is a social science or humanity, as opposed to a hard science and that the objects being assessed are essays total objectivity is not possible. The findings will be entered on an Excel spreadsheet that will be submitted to the Assessment Committee's data analysis team.

V. Data Analysis

In addition to an analysis of the raw data based on the rubric, we will also request that the data analysts consider breaking the data along the following demographic lines: (1) Gender of student. (2) Age of student. (3) Is this the first history course the student has taken? (4) Has the student taken English 101? (5) Has the student taken English 102? (6) What semester is the student in? Having this information pulled during the data analysis phase based on student ID numbers instead of requesting this information directly from students while they take the assessment will prevent "stereotype threat" for students taking the test and will help us understand the results.

The prospective plan for fall 2016 is two-fold: (1) to administer the assessment to students at the beginning and at the end of the semester to gauge their progress. All participating instructors will give a shared introductory writing assignment in the form of a short essay that will include a thesis and necessitate the use of primary and secondary sources to support an argument. The essays will be assessed based on the rubric. Over the next ten or twelve weeks, these skills will be intensively taught along with course content. Toward the end of the semester, a second essay will be assigned and assessed. A comparison of the

results of the first and second assessment should give instructors a good indication of students' success/progress in attaining the skills being measured. (2) To expand the skills measured to include the last two skills or Student Learning Outcomes (SLO) identified by the steering committee: Understand and identify the factors that cause change and continuity over time, and demonstrate knowledge of specific historical content and context. In contrast to the first three skills, which were measured in an essay, the nature of these two skills lend themselves to being measured in a Multiple Choice or Fill in the Timeline test format.

VI. Supporting Evidence-Based Change (Use of Findings)

History is much more than learning historical content. Rather, history is also learning how to make a persuasive argument based on evidence. The results of the assessment will give instructors a clear indication of students' ability to understand the content of the history courses in which they enroll, but also how to form a thesis and how to support an evidence-based argument using primary and secondary sources correctly cited. The results of the assessments will help instructors focus on areas in which students show weaknesses and will help instructors develop and hone their pedagogical skills toward effective teaching and student learning. We suspect that this will steer history instructors toward assigning more writing exercises rather than relying heavily on multiple-choice exams to test student learning. We also think that the findings will suggest that completion of English 101 should be a requirement for History courses, as to succeed in these courses students need to be able to express their ideas in writing.

Success Factors

While we are in the embryonic stage of the unit level assessment project for the Social Science Department (SSD) we can count the following four factors as successes: First, the establishment of a steering committee composed of history instructors (full time and adjunct) to create and administer the History assessment. The committee has met each week, and each member has made valuable contributions to the project. Second, by informing the faculty about the project via word-of-mouth and email the committee has raised awareness about the project and the work of the Assessment Committee more generally. Third, creating the rubric that will be used in the pilot project in spring semester 2016. And finally, planning and implementing the pilot project.

Recommendations

Having administered the pilot project, it is clear that the second skill measured (the ability to distinguish between primary and secondary sources and to properly cite both using Chicago Manual of Style (CMS)) should be decoupled for accurate assessment. In addition, the ability to distinguish between primary and secondary sources probably needs to be assessed in a True/False test, rather than in an essay. Finally, as stated above, we recommend that assessments should be administered twice per semester (at the beginning

and toward the end) to identify areas which need to be focused on and to measure students' progress. We would also recommend that in addition to completing a norming session, more than one instructor assess each student's work, as this might result in a more accurate assessment.

Appendix A: History Assessment Rubric

Skill	Exceeds Expectations 3 pts	Meets Expectations 2 pts	Emerging Skills 1pt	Does Not Meet Expectations 0 pt
Demonstrates the ability to craft a thesis statement	Crafts a strong, well-developed thesis statement that can be argued pro and con using sophisticated language	Crafts a thesis statement	Crafts a weak thesis statement – a claim that can be answered yes or no	Does not craft a thesis
Demonstrates the ability to distinguish between primary and secondary sources and to properly cite both using Chicago Manual of Style (CMS)	Consistently distinguishes between primary and secondary sources and cites correctly using CMS	Distinguishes between primary and secondary sources most of the time	Inconsistently distinguishes between primary and secondary s	Does not distinguish between primary and secondary sources
Demonstrates the ability to use primary and secondary sources to support an argument	Consistently uses primary and secondary sources and analyzes them to support an argument	Consistently uses primary and secondary sources to support an argument	Inconsistently uses primary and secondary sources to support an argument	Does not use primary and secondary sources

HUMANITIES DEPARTMENT

Unit-Level Assessment Liaison Report

Spring 2016

Liaison Project Start Date (Semester/Year): Fall 2015

Liaison Report prepared by Erica McCormack

Department Buy-In and Outcome Definition

After several semesters of Humanities & Music department Unit-Level assessment efforts that were focused on assessing outcomes from the various Music programs (Music Education, Music Performance, Music Technology, Music Business), full-time faculty in the Humanities agreed that it was time to involve other disciplines in Unit-Level assessment. Faculty opted to turn Unit-Level assessment efforts in the direction of the art history courses since the FIN ART 107 "History of Architecture, Painting & Sculpture I" and FIN ART 108 "History of Architecture, Painting & Sculpture II" courses are required components of the AFA in Studio Art. Although this program is offered through the Art & Architecture department, those two courses are offered through the Humanities department. Our department believed that we should prioritize outcomes that relate to a degree program, and these Fine Art courses in art history are the only ones in our department outside of Music courses that are required for a particular degree.

It made the decision easier given that the current Humanities liaison is the most consistent instructor of those FIN ART courses. After discussions with the two other instructors who have consistently taught Fine Arts courses (one full-time in Art & Architecture; one part-time in Humanities), we decided to assess students on their ability to achieve the following two outcomes: 1) "Identify artistic and architectural styles from the time periods studied," and 2) "Apply key art and architectural terminology to their descriptions of artworks."

Assessment Research and Design

After discussing the SLOs that extend across the art history courses (FIN ART 105 "History of Painting, Sculpture & Architecture" in addition to FIN ART 107 and FIN ART 108), 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, faculty 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 decided to treat the pilot as an information-gathering mission. Faculty believed that this would allow us to use this information later in order to construct a more thoughtful and streamlined analysis assessment. We therefore chose to wait on assessing the analysis skill and instead begin by assessing these two outcomes, which overlap all three courses: 1) "Identify artistic and architectural styles from the time periods studied," and 2) "Apply key art and architectural terminology to their descriptions of artworks."

In the Fall 2015 semester, art history faculty constructed an assessment that involved showing thirteen artworks, all of which the three faculty members ensured were not specifically discussed in any of their courses but which represented styles that were treated in at least two of the three courses (FIN ART 107 and FIN ART 108 address different periods of time, and FIN ART 105 addresses all of them but in a more cursory way).

Students were given two minutes on each artwork to offer some initial thoughts (keywords) about formal elements, subject matter, medium, and historical period, culture, and style. We wanted students to provide us with some insight about what they would think about a new artwork upon encountering it in a museum or gallery and to reveal 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. In doing so, students would reveal their learning related to those two outcomes.

In the Fall 2015 semester, the liaison created a basic rubric with the intention to revise it once the data was collected and we had a better sense of what could be accomplished in a two-minute window.

Pilot Assessment Tools and Processes

After constructing the 13-artwork assessment, we ran the pilot assessment in Week 13 of the Fall 2015 semester, across four sections taught by three instructors: one section of FIN ART 105, one section of FIN ART 107, and two sections of FIN ART 108. A total of 86 students completed the assessment (24 from FIN ART 105 + 26 from FIN ART 107 + 36 from FIN ART 108).

Administer Specific Assessment

We hoped that the data from the pilot would yield some clear feedback that we could use to influence a compare/contrast analytical assessment for the Fine Arts courses to pilot in the Spring 2016 semester. Unfortunately, the data-recording and analysis phases of the process

hit a snag (as explained in the next section) in the Spring 2016 semester that should have been anticipated but was not.

Data Analysis

As the Humanities Unit-Level Liaison, I began analyzing the data in the Spring 2016 semester. A large portion of the Spring 2016 semester was dedicated to creating more elaborate rubrics (one for each artwork, each rubric with many dimensions due to the open format of the test document) and then building a Google form reflecting that rubric structure. Once it was completed, I began the slow process of inputting the data, but before too long, I realized that I needed to reformat the form in order to include a "blank" option for each question to avoid mistaking a lack of information for incorrect information (Appendix A).

As the semester concluded without that process completed for all 86 student entries, I realized that the format was still ultimately not as useful as it needed to be in order to get the information I needed in order to move onto the next phase of assessment in art history. I realized that what I actually needed was not to capture every word that each student wrote down, but instead to differentiate correct answers from totally incorrect answers and from "interestingly" incorrect answers since those interesting incorrect answers will inform our future assessments (Appendix B).

The origin of the problem with data entry and analysis had to do with our decision to use such a bulky assessment that was trying to do too many things instead of offering students a Scantron-based multiple choice version of the thirteen artwork assessment using our hypotheses of concepts students may have considered relevant. When developing the assessment, it seemed important to have students provide relevant terms and concepts without relying on recognition of a proper term. In retrospect, however, that decision was not worth all the other complications it caused.

I initially anticipated that using Google Forms for data entry would itself yield clarity (observing General Education assessment work had convinced me of Google Forms' utility for putting data into a format so that it could be analyzed and interpreted easily). However, instead, it turned into a behemoth such that for every student's test, 147 separate pieces of data had to be submitted, making input take around 30 minutes per test. I could have perhaps been steered away from this course if I had spoken to our Data Analyst during the assessment design phase, but at that point, we had only one analyst working with our general education as well as six liaisons' assessment data. I opted to wait to use his services until after I had data so as not to overburden him. Now, thankfully, we have two data analysts to handle the large quantity of data being generated by our committee members,

so I feel more comfortable engaging their expertise in the planning process and will hopefully avoid making these foreseeable mistakes again.

Supporting Evidence-Based Change (Use of Findings)

Once the data has been fully analyzed using our more informal but ultimately more useful rubric for our current purposes (Appendix B), art history faculty will construct a Multiple Choice exam to run in Fall 2016 based on what we begin to notice are common misunderstandings. That will then help us refine our understanding of student learning and use that to inform pedagogical and curricular changes in order to maximize future student learning.

Success Factors

Although this report has focused primarily on the decisions made in the planning, execution, and analysis phases of the pilot that led to problems, there have been successes. Non-musicians within the Humanities department have become more invested in assessment conversations, and we look forward to expanding these in future semesters as our work progresses.

Additionally, there is nothing like making a mistake (or series of mistakes) to teach one to reflect and change policies. Each mistake was made with the best of intentions and plenty of thought, which just reinforces the importance of prioritizing particular questions in the planning process. Everything we have learned from this failed pilot is going to make our future assessment efforts more coherent.

Recommendations

This pilot led to recommendations primarily focused on the assessment process rather than on the content about student learning. Now that we have two data analysts on the HWCAC, I recommend all liaisons consider consulting with one of them during the planning process so that they can troubleshoot and avoid scenarios like this one.

In order to ensure that our entire pilot was not a waste, we will use our Fine Arts information about correct, “interestingly incorrect,” and “other incorrect answers” to influence the creation of a multiple choice, Scantron-based assessment to run in art history courses during the Fall 2016 semester. During this same semester, the Humanities general education assessment will be taken by students in sections across the college. That Humanities assessment will be essay-based, so it is not ideal timing to initiate another

essay-based assessment in art history. Instead, we will use the opportunity to run the pilot that we should have run in the first place.

The other recommendation has to do with not losing sight of the importance of breaking off manageable, discrete chunks, even when a department is multiple semesters into their unit-level assessment work and thinks they can therefore handle that complexity. Our department did manage to deal with complexity by constructing multiple detailed rubrics, but all that did was take us far into the process before realizing that we would have been able to answer our questions about student learning much better if we had conducted a simpler assessment. A simple format does not necessarily mean that one will gather uninteresting data.

Appendix A: Example of Initial Detailed Rubric for Pilot (Artwork 5)

	Accurate with elaboration	Partially accurate or vague	Inaccurate	I do not believe I have ever studied anything like this*	Nothing entered
Style	Rococo	Baroque	(Other)	Ok if FA107, not if FA 105 or FA108	
Historical time period	1770 (+/- 25 years)	+/- 50 years	Over 50 years incorrect	"	
Cultural Tradition	French	European	(Other)	"	
Medium Selected	Oil painting (on canvas)	Painting (on canvas)	(Other)	"	
Medium Keywords	Oil, canvas			"	
Subject Matter	3+: Woman, aristocrat/elite, letter, bouquet dog, fabric, luxury.	2: Woman, aristocrat/elite, letter, bouquet dog, fabric, luxury.	No more than 1: Woman, aristocrat/elite, letter, bouquet dog, fabric, luxury. (or Other)	"	
Formal Elements selected	Two or more relevant to painting selected	One relevant to painting selected	Irrelevant one(s) selected	"	

Formal Elements Keywords	2: Pastel colors, loose brushstrokes, lighting, etc.	1: Pastel colors, loose brushstrokes, lighting, etc.	(Other)	“	

Appendix B: Example of Revised and Simplified Rubric for Pilot* (Artwork 1)

	Style	**Historical Time Period**	**Cultural Tradition**	**Medium**	**Subject Matter**	**Formal Elements**
1: Correct Answers	Black figure	Archaic, c. 530 BCE	Ancient Greek (Aegean/European)	Ceramic	Panathenaic/ Athletic amphora	Amphora, black figure, glaze
1: Correct Tally	105: 107: 1 108:	2	3	3	1	1
1: Interestingly Incorrect	105: 107: 108:		Hinduism, Egypt (2), Roman			

*Still in process

BUSINESS DEPARTMENT

Unit-Level Assessment Liaison Report

Spring 2016

Liaison Project Start Date (Semester/Year): Spring 2016

Liaison Report prepared by Bral Spight

Department Buy-In and Outcome Definition

The Business Department at Harold Washington College wanted to understand the abilities of students prior to entering a pathway of study to accomplish at least three things. 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 our discoveries from the assessment data; 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.

The department started by first holding discussions with tenured and non-tenured faculty about what a student at Harold Washington should ideally be able to demonstrate in terms of basic business knowledge and mathematical ability prior to focus on business studies. There was further discussion about the timing and format of any assessment to 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 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 each of the three courses which were common to almost all later course requirements, 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 of a test question database that would be used to perform the assessment via Blackboard or alternative electronic means.

Assessment Research and Design

The goal was to distribute an assessment for all students matriculating through Business 111, Business 141, and Business 180. The assessment was designed so that specific skill sets and topical knowledge could be isolated and highlighted as either opportunities or challenges for faculty to consider how curricular and/or pedagogical changes could improve student learning. A national survey of 13 potential course "Exit" exams and assessments from community colleges and four-year colleges was conducted along with a review of previous Business 111, Business 141, and Business 180 exams to come up with the initial pool of questions to be used (Appendix A). Questions were cross-referenced against the course objectives and outcomes for the same courses to determine appropriateness for the assessment. The specific knowledge areas probed related to the following outcomes:

1. Demonstrate an ability to analyze how various environmental influences affect business outcomes (Business 111)
2. Complete a rudimentary business analysis for assessment of an enterprise's prospects (Business 111)
3. Determine the correct algebraic process to solve problems for a variety of business situations. (Business 141)
4. Apply math concepts to analyze and solve problems related to accounting principles for business (Business 141)
5. Apply math concepts to analyze and solve problems related to the principles of business finance (business 141)
6. Apply math concepts to analyze and solve problems related to marketing principles for business, including Mark ups and Mark Downs (Business 141)
7. Apply math concepts to analyze and solve problems related to management principles, i.e. analyze budgets, calculating ratios to make sound business judgments. (Business 141)
8. Understand How to create and record business transactions using T-accounts and generally accepted accounting principles/practices. (Business 180)
9. What is the accounting cycle? (Business 180)
10. How to create trail balance, income statement, balance sheet, Shareholder's Statement. (Business 180)

A list of the course outcomes and expectations is referenced at the end of this report (Appendix B) along with the pool of questions selected (Appendix C).

Pilot Assessment Tools and Processes

The Business Department unit-level liaison (Bral Spight) developed the assessment tool in consultation with faculty currently teaching the respective courses. The format chosen was to ask 40 multiple choice questions in 60 minutes in such a way that students would be best placed

to score well only if such knowledge was deeply held. In addition to potential answers, students would also be allowed the option to answer "I do not know" as appropriate. These same questions would then be used to form the core of a second survey to be asked of the same students later upon transferring/graduating. Those with learning disabilities would be assigned accommodations in accordance with school policy.

The Blackboard assessment will be timed so that the assessments could also serve as a general study tool for the students preparing for finals in that it ideally reinforces the same concepts they have been studying all semester. The assessment will be provided to all 17 sections of Business 111, 3 sections of Business 141, and 4 sections of Business 180. Accompanying it, an explanation will be provided to instructors about how to administer the assessment and how to help encourage high participation rates through class participation credit or other appropriate means.

Administer Specific Assessment

The assessment will be administered in the Fall 2016 semester due to the desire to get a robust turnout as well as to a few coordination issues that prevented roll-out during Spring 2016. There has also been some internal discussion about whether the better procedure would be to survey the students in class or outside of the class context using IT solutions and student databases. The exact administration details are still being finalized.

Data Analysis

We hope to obtain a robust sample size of student responses and will use analytics tools to perform analysis over the winter break of 2016. The analysis will hopefully provide us with some useful insights to facilitate the next round of assessments in Spring 2017.

Supporting Evidence-Based Change (Use of Findings)

After the data is compiled, the results will be presented in a department meeting and subsequently in a City Colleges wide discipline meeting in spring 2017 The presentation to faculty will be used to provide input and guide our subsequent steps. Part of the hope is that with successful refinement, results could be provided in a digested form to inform instructors of higher level pathway courses what some of the capabilities are for their incoming student populations as well as to highlight some concepts that might require additional review in upper-level courses in order to enhance student learning.

Success Factors

One of the biggest success factors thus far is the increased support of assessment among department faculty. This is attributed to the hope that the tool can both be used to characterize classroom capabilities and opportunities for growth as well as to demonstrate the overall

effectiveness of the programs in support of accreditation documentation. There have been ongoing discussions on how the assessment work can be plugged into our accreditation processes.

Recommendations

There is support in the department for the development of an additional set of assessments tied to matriculating/exiting students who have progressed through the respective departmental pathways. It is expected that the next round of work will focus on the design and implementation of subsequent assessment tools that can help demonstrate student learning and departmental effectiveness in support of accreditation efforts. This work will be coordinated in the fall of 2016, and the results will be made available to faculty for comments and refinement in a similar timeframe as the original work.

APPENDICES: BUSINESS

Appendix A: References

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Appendix B: Relevant Course Objectives and Outcomes

Business 111

Course Objectives:

At the end of this class, the learner will be able to:

1. Explain how today's business workforce and the nature of work itself is changing
2. Describe the factors that influence business ethics
3. Discuss how economic conditions effect business outcomes
4. Distinguish between the global and local economic marketplaces, and describe how one effects the other
5. Analyze a business via a report analyzing the functional components and aspects of business
6. Define, and describe the many issues facing businesspeople and entrepreneurs
7. Identify the key aspects and considerations of the business firm
8. Define supply, demand, and market equilibrium, and explain how these concepts affect market outcomes
9. List and describe various marketing strategies that may affect business outcomes
10. Describe the role information systems play in promoting business production

11. Know how the application of proper accounting standards and the production of financial statements improve business performance

Course Outcomes:

At the end of this course the student will be able to…

1. Demonstrate an ability to analyze how various environmental influences affect business outcomes
2. Complete a rudimentary business analysis for assessment of an enterprise's prospects
3. Exhibit a tangible understanding of the ways in which business performance, growth, and failure affect our day-to-day lives
4. Analyze the relevance of economic theory to market behaviors
5. Establish links between business productivity and societal well-being

Business 141

Course Objectives:

At the end of this class, the student will have an understanding of:

1. The importance of mathematical computation and applications in modem business.
2. Fractions, decimals, and percentages.
3. The concepts and methods used to determine business and individual taxes.
4. Alternative methods of depreciating assets and of valuing merchandise inventory.
5. Securities from the perspective of both the investor and the issuer.
6. Common business financial statements and methods for analyzing them to determine profitability, solvency/liquidity, operating activity levels, and ownership structure (leverage).
7. Property tax, sales tax, and of life, fire, and automobile insurance.
8. The total cost of the different types of home mortgage loans, of annuities and sinking funds, including calculating and comparing values of different types of annuities.

Course Outcomes:

By the end of the course the students will be able to:

1. Determine the correct algebraic process to solve problems for a variety of business situations.
2. Apply math concepts to analyze and solve problems related to accounting principles for business
3. Apply math concepts to analyze and solve problems related to payroll for business
4. Apply math concepts to analyze and solve problems related to banking services for Business
5. Apply math concepts to analyze and solve problems related to the principles of business finance
6. Apply math concepts to analyze and solve problems related to marketing principles for business, including Mark ups and Mark Downs
7. Apply math concepts to analyze and solve problems related to management principles, i.e. analyze budgets, calculating ratios to make sound business judgments.

8. Analyze and interpret data using common probability and statistical procedures to solve problems for a variety of business situations.

Business 180

Course Objectives:

At the end of this class, the student will have an understanding of:

1. The accounting cycle for a business and how to use accounting practices and procedures to analyze business transactions.
2. Accounting basics—recording T-account entries which include income, expense, asset, liability, and capital transactions.
3. Understand basic financial statements to include a balance sheet and income statement;
4. Common challenges that business owners face when recording business financial transactions. Some of these include structuring proper internal controls, detecting fraud, and managing cashflow.
5. Employer taxes, payments and reports.
6. Cash receipts and cash payments.
7. Importance of business profitability and liquidity—i.e., how they impact the ability to grow the business and compete effectively.

Course Outcomes:

By the end of the course the students will be able to:

1. Understand How to create and record business transactions using T-accounts and generally accepted accounting principles/practices.
2. What is the accounting cycle?
3. How to create trail balance, income statement, balance sheet, Shareholder's Statement.

Appendix C: Question Pool

Question Number	Class Outcomes Addressed	Question	Comments
1	180	Which of the following is/ are not true about a proper journal entry? [A] All debits are listed before the first credit. [B] A debit is never indented, even if a liability or owner's equity account is involved. [C] All credits are indented. [D] An explanation is needed immediately after each debit and immediately after each credit. [E] None of these is true.	

2	180,111,141	Over a period of time, if total assets increase by $26,000 and total liabilities increase by $6,000, then owner's equity will be increased by: [A] $7,000 [B] $20,000 [C] $32,000 [D] $25,000 [E] None of these.	
3	180	A person wanting to know the balance of a particular account would refer to [A] the chart of accounts. [B] the book of original entry. [C] the ledger. [D] the source document. [E] none of these.	
4	180,111, 141	A debit may signify a decrease in [A] a revenue account. [B] an asset and a revenue account. [C] a liability account. [D] an asset account. [E] a liability and a revenue account.	
5	180,111,141	The income statement presents a summary of the [A] assets and liabilities of an entity. [B] changes that occurred in the stockholders' equity of an entity. [C] cash inflows and outflows of an entity. [D] revenues and expenses of an entity [E] none of these.	
6	180, 111, 141	Revenues are [A] increases in Owner's Equity resulting from delivering goods or services to customers. [B] decreases in Owner's equity resulting from delivering goods or services to customers. [C] increases in liabilities resulting from delivering goods or services to customers. [D] decreases in assets resulting from delivering goods and services to customers. [E] none of these.	

7	180	An employer records the amount of federal income tax withheld as [A] an expense. [B] an asset. [C] payroll tax expense. [D] a liability. [E] none of these.	
8	180, 141	Payroll tax expense represents the amount of taxes contributed by the [A] employee. [B] employer. [C] employee and employer combined. [D] employer plus gross pay. [E] employer plus employee's net pay.	
9	180	Which of the following errors will probably show up in the preparation of a trail balance? [A] failure to post an entire entry in the ledger [B] failure to record an entire entry in the journal [C] failure to post part of an entry [D] posting the debit of a journal entry as a credit and the credit as a debit [E] none of these	
10	180, 111	The financial statement that presents a summary of the revenues and expenses of a business for a specific period of time such as a month or year, is called a(n): [A] prior period statement [B] statement of retained earnings [C] cash flow statement [D] income statement [E] balance sheet	
11	180, 141	If equipment cost $20,000 and accumulated depreciation amounts to $6,000, the book value of the equipment is: [A] $26,000 [B] $ 6,000 [C] $14,000 [D] $20,000 [E] Cannot be determined with the information provided	

12	180	Net income for Susan's Treasures is $25,000 for the current year. The owner withdrew $3,000 per month for personal living expenses. The owner's Capital account will show a net [A] decrease of $11,000 [B] increase of $61,000 [C] decrease of $36,000 [D] increase of $11,000 [E] increase of $36,000	
13	111	In which of the following forms of business ownership is there a separation between ownership and management? [A] Sole proprietorship [B] Partnership [C] Corporation [D] Limited Liability Partnership [E] None of these	
14	111, 141, 180	_____ is the amount a business earns over and above what it spends for salaries, expenses and costs. [A] Profit [B] Revenue [C] Interest [D] Retained Earnings [E] None of these	
15	111, 141	A business incurs a _____ if its costs and expenses exceed its revenues. [A] loss [B] liability [C] debit [D] dividend [E] none of these	
16	111	The most common form of business ownership is the: [A] partnership [B] corporation [C] joint venture [D] sole proprietorship [E] none of these	

17	111	When a nation's gross domestic product (GDP) declines for two consecutive quarters, the economy is said to be experiencing: [A] stagflation [B] inflation [C] a recession [D] a depression [E] deflation	
18	111	_____ is the process of determining the wants and needs of customers and then providing goods and services to meet or exceed their expectations. [A] Consumer research [B] Production [C] Marketing [D] Econometrics [E] Logistics	
19	111, 141	Money has time value. This means that: [A] money's value will rise over time. [B] the money prices of goods will fluctuate over time due to inflation and deflation. [C] monetary systems tend to become more sophisticated over time. [D] a dollar received today is worth more than a dollar received a year from today. [E] financial managers have to value their time wisely.	
20	111	A firm is using _____ segmentation when it divides a market into groups based on age, income, or level of education. [A] demographic [B] psychographic [C] sociological [D] econometric [E] none of these	
21	111	A general rise in prices of goods and services over time is a/an: [A] depression [B] marginal increase [C] inflation [D] mixed economy [E] economic progress	

22	111	The total value of goods and services produced in a country in a given year is called: [A] purchasing price parity [B] productivity index [C] consumer price index [D] gross domestic product [E] annual national profit	
23	111	All are considered advantages of being a sole proprietorship except: [A] ease of starting and ending the business [B] retention of profits [C] no special taxes [D] limited liability [E] all are advantages of being a sole proprietorship	
24	111	Which form of business accounts for less than 20% of all businesses and yet accounts for almost 90% of all business receipts? [A] corporations [B] LLCs [C] partnerships [D] sole proprietorships [E] limited partnerships	
25	111	This should be the primary objective of a firm as it may actually be the most beneficial for society in the long run. [A] Maximizing shareholder value [B] Minimizing costs [C] Maximizing market share [D] Minimizing layoffs	
26	111	All of the following are advantages to organizing as a corporation EXCEPT: [A] double taxation. [B] limited liability. [C] easy access to capital. [D] easy to transfer ownership. [E] all the above are advantages.	

27	111, 180	On which of the four major financial statements would you find the increase in inventory? [A] Statement of cash flows [B] Balance sheet [C] Income statement [D] Statement of retained earnings [E] All of them	
28	141	One-ninth of all sales at a local Subway are for cash. If cash sales for the week were $690, what were Subway's total sales? [A] $6,210 [B] $22,600 [C] $2,610 [D] $2,611 [E] None of these answers	
29	141	Jane sells 8 times as many Volvos as Melissa. If the difference in their sales is 35, how many cars did Jane sell? [A] 40 [B] 45 [C] 5 [D] 35	
30	141	9 3/4% converted to a fraction equals: [A] 39/400 [B] 39/40 [C] 390/400 [D] 39/4,000	
31	141	750 is what percent of 900? (Round to nearest tenth of a percent.) [A] 83.3% [B] 83.33% [C] 16.66% [D] 16.6% [E] None of these answers	
32	141	An LCD flat screen TV at Best Buy increased in price from $900 to $1,200. What was the percent of increase? [A] 33 1/3% [B] 50% [C] 60% [D] 70% [E] None of these answers	

33	141	An Apple iPod sells for $299, which is marked up 40% of the selling price. The cost of the iPod is: [A] $179.40 [B] $197.40 [C] $149.70 [D] $194.70 [E] None of these answers	
34	141	Lee Wong is a sales clerk at Sears. She is paid $8.00 per hour plus a commission of 4% on all sales. Assuming Lee works 39 hours and has sales of $4,000, her gross pay is: [A] $472 [B] $427 [C] $312 [D] $321 [E] None of these answers	
35	141	Jill Ley took out a loan for $60,000 to pay for her child's education. The loan would be repaid at the end of eight years in one payment with interest of 6%. The total amount Jill has to pay back at the end of the loan using simple interest is: [A] $88,800 [B] $28,800 [C] None of these [D] $88,008 [E] $80,800	
36	141	Ellen deposits $6,773 into an account earning 1% annually. After seven years what will Ellen's balance have approximately grown to, including interest? [A] $7,261 [B] $6,836 [C] None of these [D] $7,517 [E] $7,518	
37		Nancy Billows promised to pay her son $600 quarterly for four years. If Nancy can invest her money at 6% in an ordinary annuity, she must invest approximately how much today? [A] $8,479 [B] $8,476 [C] $10,756 [D] $10,759 [E] None of these	

38	141, 180, 111	Cost of merchandise sold equals beginning inventory: [A] Plus net purchases minus ending inventory [B] Plus net purchases plus ending inventory [C] Minus net purchases minus ending inventory [D] Minus net purchases plus ending inventory [E] None of these	
39	141, 180	Book value is: [A] Cost minus accumulated depreciation [B] Cost plus accumulated depreciation [C] Cost divided by accumulated depreciation [D] Cost times accumulated depreciation [E] None of these	
40	141	Jorge purchased 100 shares of Monsanto Company for $66.10 per share. Today the stock is selling for $80.45. Assuming a charge of $7.00 to buy and sell, how much did Jorge earn if he sold his shares today? [A] $1,421 [B] $14,655 [C] None of these [D] $6,617 [E] $8,038	
41	141	The mean of the following {14, 8, 3, 8, 5} is: None of these [A] 7.5 [B] 7.4 [C] 7.1 [D] 7.2	
42	141	From the following numbers, {16, 9, 10, 5, 4} the median is: [A] 9 [B] 4 [C] 5 [D] 10 [E] None of these	
43	141	Calculate the weighted mean from the following sales: $400, $700, $300, $600, $300, $400, $700 [A] None of these [B] $700 [C] $500 [D] $300 [E] $400	

44	141	N/8 + 6 = 58; N equals: [A] 416 [B] 512 [C] 521 [D] 461 [E] None of these answers	
45	141	102% converted to decimal is: [A] 1.02 [B] 10.20 [C] .0102 [D] .00102 [E] None of these answers	