Annual Report on Student Learning Outcomes Assessment at NYIT
AY2013-2014

Assessment Committee, Academic Senate

December 5, 2014

This is the sixth annual report on student learning outcomes assessment prepared by the Assessment Committee of NYIT’s Academic Senate for use by the NYIT community. The purpose of these annual reports is to draw attention to assessment-related actions and outcomes by the committee, the faculty, and the administration during the year and to make suggestions for improvement. The ultimate goal is to improve student learning at NYIT.

This year’s report is divided into two main sections: A report on assessments of the “global” core competency conducted throughout the institution and a summary of work on assessing programmatic learning outcomes (actions taken to improve student learning and an evaluation of the material in each program’s report compared with the six assessment criteria adopted by the committee.

I. “Global” Core Competency at NYIT

NYIT’s Assessment Committee designated the “Global Perspective/World View” competency to be the focus of AY 2013-2014 assessment activities related to the undergraduate core curriculum, following its reformulation by the Academic Senate:

“Students can identify interdependencies among cultures and are able to collaborate effectively, participating in social and business settings globally. Upon graduation, students will be able to:

a) Recognize the impact of the global interconnectedness of issues, processes, trends, and systems on their academic specializations and worldviews.

b) Practice well-researched oral, written, visual, and digital communication in its diverse cross-cultural forms.

c) Describe a complex global issue from multiple cultural perspectives and explain how those perspectives affect the treatment of the issue.

d) Employ effective and appropriate interaction and teamwork with people of different nationalities and cultures, demonstrating respect for social, cultural, and linguistic diversity.

On Assessment Day, August, 28th 2013, the revised definition was discussed together by faculty from all undergraduate programs; following that, program faculty met to plan their year’s assessment activities on the subject.
Assessment Results – New York campuses

While NYIT’s undergraduate programs report being at different points in the assessment process, all made some progress in assessing their students’ competency in this area over the year:

- Some have completed the curriculum revisions needed to accommodate the change: identifying courses that address global competencies in the degree program (curriculum mapping), revising course learning outcomes to reflect global perspectives in the context of the discipline, adding or revising lectures, students’ assignments, and (or) extra-curricular activities for full exposure and accumulative learning experiences.

- Some have also created evaluation instruments such as projects, research papers, mid and final examinations with rubrics, and collected students’ baseline data to assess to what degree students are achieving the outcomes.

The final step, closing the loop, is began at Assessment Day on August 27, 2014: Sharing the data with all stake holders and discussing what actions can be taken to improve student learning.

Behavioral Sciences: All three programs in this department completed both steps (curriculum revision and data collection). Psychology revised PSYC 220 (Child Psychology), PSYC 260 (Social Psychology), and PSYC 370 (Research Methods). Criminal Justice revised CRIM 330 (Ethics in CJ), CRIM 340 (Comparative CJ), and CRIM 495 (Field Placement). Sociology/Social Work revised SOCI 101 (Introduction to Sociology), SOCI 175 (Social Problems), SOCI 301 (Marriage and Family), and SOCI 150 (American Urban Minorities). Multiple faculty members collaborated in designing research papers, a literature review project, multiple choice examinations, and oral presentations to evaluate students’ progress towards achieving global competencies.

Assessments and Results: The assessment results indicate that majority of students (more than 70%) are at the satisfactory level of the “globally competent” scoring rubric:

<table>
<thead>
<tr>
<th>Rubric Score Range</th>
<th>Criminal Justice</th>
<th>Sociology/Social Work</th>
<th>Psychology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superior</td>
<td>28.6%</td>
<td>35.9%</td>
<td>16.7%</td>
</tr>
<tr>
<td>Very Good</td>
<td>25.4%</td>
<td>17.2%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Satisfactory</td>
<td>25.4%</td>
<td>17.2%</td>
<td>16.7%</td>
</tr>
<tr>
<td>Poor</td>
<td>6.3%</td>
<td>9.4%</td>
<td>19.8%</td>
</tr>
<tr>
<td>Failing</td>
<td>14%</td>
<td>20.3%</td>
<td>13.5%</td>
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</table>

Architecture & Design: Faculty aligned NYIT’s global competency definitions (a-d) with NAAB standards A6 and A7, which were mapped to ARCH 161, ARCH 162, ARCH 361 and ARCH 402
– both for developing the competency and assessing progress. The assessment plan included tailoring written exercises and mid-term and final term examinations in Arch 161 and 162 for these assessment purposes. The report did not contain a description of student work collected or data analysis.

**Engineering and Computer Sciences:** Faculty from the undergraduate ECE, IT, CS, and ME programs aligned NYIT’s global competency definitions (a-d) with ABET’s student outcomes (SO) c, d, f, h, j: If engineering students achieve learning outcomes c, d, f, h, and j they are considered to be globally competent engineers.

The ECE program has taken an “across-the-curriculum” approach to developing these competencies including:

- Assigning “Ethical Decision Making Scenarios” in the freshman course ETCS 105 “Career Discovery”
- Requiring students to enroll in several specific core seminar courses with Ethics content
- Incorporating Ethics case-studies, modules, or homework assignments into the course outlines of required engineering and computer science courses. (The case studies and modules are selected by the faculty from the NAE's Online Ethics Center (OEC) [www.onlineethics.org](http://www.onlineethics.org).
- In the required course IENG 400 – Technology and Global Issues, students engage directly in cross-cultural interactions with people from culturally diverse backgrounds to broaden their perspectives and avoid cultural imposition.
- Students work in teams to complete lab exercises in required courses: EENG 275, 315, 360, and 403, (Electronics Laboratories I, II, III, IV). To ensure effective teamwork an “ECE Team Guidelines” document is distributed to all students in the lab sequence and a “Teamwork Rubric Template” is used by the “Lab Team Captain” at least five times during the semester to document the nature of the teamwork through the contribution of each team member to the project.

In keeping with the major design experience required in the capstone sequence EENG 489, 491, the final project report requires student teams to consider their designs within realistic constraints and any ethical issues with regard to product safety, disposal, regulation, etc. and the outcome of a global perspective. To foster cross-cultural interactions/global competency students are asked to consider the questions in analyzing the societal and ethical implications of their design projects: Some of the questions they were asked are: Is sustainable development compatible with human welfare? Is the precautionary principle a hindrance to economic growth? Should a clone be considered a real human being?

**Assessments and Results:** Following their multi-year assessment plans, engineering programs assessed ABET outcome “c” (one of those linked to NYIT’s global competency) during AY 13-14 following their standard FCAR (Faculty Course Assessment Report) procedure. They also introduced a survey instrument designed to measure global competencies in ETCS 105 to assess progress over the year.

- FCAR analysis of the capstone courses EENG 489, 491 for ABET student outcome “C” showed a composite score of 2.17, well above the 1.5 benchmark for the outcome.

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• Survey responses showed improvement in all four aspects of global competency assessed after completing ETCS 105:

<table>
<thead>
<tr>
<th>Global competencies</th>
<th>Before ETCS 105</th>
<th>After ETCS 105</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Tolerance for ambiguity”</td>
<td>1.95</td>
<td>2.45</td>
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<tr>
<td>“Respect for otherness”</td>
<td>2.55</td>
<td>2.75</td>
</tr>
<tr>
<td>“Behavioral flexibility”</td>
<td>3.25</td>
<td>3.55</td>
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<tr>
<td>“Capacity for empathy”</td>
<td>2.75</td>
<td>2.95</td>
</tr>
</tbody>
</table>

**Health Sciences:** Faculty in the bachelor of health science have also completed both curriculum revision and data collection. New learning outcomes – with appropriate assignments and assessments have been added to three courses:

- HSCI190 (Community Health Implications): (1) Recognize the impact of the global interconnectedness of issues, processes, trends, and systems on health and (2) Describe Millennial Global Goals vs. US Healthy People 2020;
- HSCI195 (Professional and Cultural Issues in Healthcare Care): Describe a complex global issue from multiple cultural perspectives and explain how those perspectives affect health;
- NTSI 201 (Introduction to Clinical Nutrition Practice): Describe a complex global issue from multiple cultural perspectives and explain how those perspectives affect the treatment of the issue.
- HSCI1420 (Biomedical Ethics): A new book was added to class reading: *The Spirit Catches You*, which is about a Hmong immigrant family. A discussion assignment was designated for students.
- HSCI1320 (Complementary and Alternative Medicine) was launched this year. This course includes the following two topics: Ayurvedic Medicine and Its Practices and Alternative Medical Systems: Traditional Chinese Medicine.
- Other courses related to consideration of issues of race, ethnicity, gender, class and religion include HSCI1400 Health Seminar, HSCI1430 Health Care Payment Systems. During the 2014- 2015 academic year faculty will consider ways to use these courses to improve students’ global competency.

**Assessments and Results:** Global competency was assessed in capstone courses HSCI1410 (Senior Practicum I) and HSCI1410 (Senior Practicum II). 95% of the students received at least 17/20 (20 points assigned to the global competency components) for this section.
**Life Sciences:** The undergraduate life sciences programs identified a those courses that address the global competencies: BIOL 107 (Environmental Sciences), BIOL 230 (Ecology), BIOL 235 (Microbiology), BIOL 425 (Biomedical Research I), BIOL 416 (Population Genetics), BIOL 440 (Genetic Engineering), BIOL 441 (Contemporary Biotechnology), and CHEM 320 (Environmental Chemistry) CHEM 420 (Pharmaceutical Chemistry). Detailed assessment plans were developed.

**Assessments and Results:** Faculty assessed the competency using a term paper and oral presentation on emerging diseases(in BIOL 425) and an exam on biodiversity (in BIOL 230) to assess part “c” of the NYIT definition rubric (“Describe a complex global issue from multiple cultural perspectives and explain how those perspectives affect the treatment of the issue”). The average grade on the term paper was A- (n=9), the average grade on the biodiversity exam was 86 (n=29). Looking at the data from both courses, it is clear to faculty that graduating students grasp the notion of how biodiversity and emerging diseases are global issues that can affect biological organisms across the globe.

**Nursing:** Faculty aligned NYIT’s global competency definitions (a-d) with nursing program learning outcome 7 and the “Nursing Essential” VII: Clinical Prevention. They believe the outcome is both developed and assessed in every nursing course (NURS 102, 301, 310, 315, 351, 360, 401.410, 421, 461, 451, 430, 470, and 480) through a combination of readings, examinations, field trip experiences, clinical practices, discussions, written assignments, and oral presentations. During AY 13-14, 29 students essay were evaluated using a rubric, and Students’ grades ranged from 92% to 98%.

**Assessment Results – Global campuses**

**Abu Dhabi, BS.BA:** Faculty aligned NYIT’s global competency definitions (a-d) with BS.BA programmatic learning goal and objectives: G2O1, G2O2, G2O4, G3O1, G1O3 and identified courses that address the objectives (MGMT 200, ACCT101, QANT 405, MGMT 335).

**Assessments and Results:** Work sampled included a team project, a research paper, a test, and a case study. A 5-point scale was used to evaluate student performance on two dimensions: “professional” (focusing on quality of content) and “technical” (format, writing style, presentation of material, and logical sequence). All scores were well above the 3/5 benchmark. Since the outcome was measured in two dimensions, the data analysis also indicates that students are relatively stronger in the quality of the content than the quality of technical aspects. Relevant recommendations for improvement in this area include faculty and student mentoring and use of business simulation games among others, and outcomes of the improvement initiatives will be assessed in spring 2015.

**Nanjing, China: ECE & CS** faculty assessed global competencies in ICSS 309 using an examination. Three samples of students’ data were collected in both spring 2013 and spring 2014. Over all, the average score indicated that students meet the benchmark. The data analysis also indicated students scored relatively low on test items that related to subject matter of medicine, economics, and the environment.

**Nanjing, China: BS.BA** faculty aligned NYIT’s global competency definitions (a-d) with BS.BA programmatic learning goal and objectives: G3O2 “Impact of globalization” and G2O2
“Explore, compare, or contrast global value judgments and perspectives.”

**Assessments and Results:** Student work was sampled from MGMT 200, MRKT 200, ECON 201, FINC 201, MIST 315, QANT 405, ECON 105, MIST 335, BUSI 435. It was scored using the school’s standard GVS (goal validation system) methodology and evaluated against predetermined benchmarks. The accumulative data from all these courses indicate that students exceeded the benchmark (3/5). The program attributes this good results to the AY 2013-14 Professional Enrichment and Development Program that invited seven prominent speakers to talk about international and global issues to enhance student understanding of global issues and provide a forum for discussion.

**Nanjing, China: BFA in Communication Arts** faculty assessed part “d” of NYIT’s global competency rubric: “Upon graduation, students will be able to employ effective and appropriate interaction and teamwork with people of different nationalities and cultures, demonstrating respect for social, cultural, and linguistic diversity” and “knowledge in communication ethics” in AY 2013-14.

**Assessments and Results:** A “Communication Ethics” survey developed using items from standardized business and communication ethics tests (16 yes or no situational questions was administered to 107 CA majors in the freshman, sophomore, junior and senior classes (virtually the entire major). 80 percent (85 students) of the 107 CA majors scored 70 percent or higher. Recommendations for improvement include providing communication ethics training across the entire CA curriculum including standards in Journalism, Public Relations and Advertising courses; broadening the visual and digital communication ethics components in the film, video and digital media courses, especially in relation to current ethical use of digital video hardware and software, social media and the Internet.

**Assessment Results – National Survey of Student Engagement (NSSE)**

This year, NYIT 115 freshman and 77 senior students participated in the NSSE global perspective survey—an extra module that probes the cognitive and social elements of a global perspective, asking students about experiences with global learning and views on intercultural understanding: (1-strongly disagree to 5 strongly agree). NYIT is one of 71 institutions from across the nation that used this extra module to evaluate students’ intercultural understanding and global learning experiences. NYIT freshman got significantly better scores on 8 of the 21 items with no significant difference on the other items. NYIT seniors got significantly better scores on 7 of the 21 items.

Overall the findings indicate that both NYIT freshman and seniors have a multicultural profile. They tend to have more friends from backgrounds other than their own and believe they are better informed on international relations, the causes of international conflict and how various cultures interact socially than those at benchmark institutions. They interact frequently with people from a different country than their own or who are from a different race/ethnic from their own.

a. When I notice cultural differences, my culture tends to have the better approach.
b. Most of my friends are from my own ethnic background.
c. I think of my life in terms of giving back to society.
d. Some people have a culture and others do not.
e. In different settings, what is right and wrong is simple to determine.
f. I am informed of current issues that impact international relations.
g. I understand the reasons and causes of conflict among nations of different cultures.
h. I work for the rights of others.
i. I take into account different perspectives before drawing conclusions about the world around me.
j. I understand how various cultures of this world interact socially.
k. I consider different cultural perspectives when evaluating global problems.
l. I rely primarily on authorities to determine what is true in the world.
m. I know how to analyze the basic characteristics of a culture.
n. I put the needs of others above my own personal wants.
o. I can discuss cultural differences from an informed perspective.
p. I intentionally involve people from many cultural backgrounds in my life.
q. I rarely question what I have been taught about the world around me.
r. I consciously behave in terms of making a difference.
s. Volunteering is not an important priority in my life.
t. I frequently interact with people from a different country from my own.
u. I frequently interact with people from a race/ethnic group different from my own.

Please see the results on the following page.
**Part II Annual Assessment Report Summary**

In addition to global learning assessment, academic programs continued their annual programmatic learning outcome assessment, and based on the assessment results, they have taken actions to improve students learning and overall program outcomes. Table I gives examples of the actions taken during AY 13-14:

<table>
<thead>
<tr>
<th>AY 2013-2014</th>
<th>Sample Actions to Improve Student Learning and Program Outcomes</th>
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</table>
| Providing learning support | • B.S. Health Science program instituted zoom meetings and explored using VoiceThreads in online courses to facilitate student learning.  
• DPT program developed a project proposal for a tutoring program to improve retention. |
| Improving pedagogy and curriculum | • Architecture developed a new concentration in Construction Management in response to industry demand.  
• Architecture (Design I & II) introduced tectonic systems earlier in the curriculum to better prepare students for the final design, which was redesigned to address NAAB’s concerns and recommendations.  
• Master of Science in Instructional Technology (MSIT) reduced the program from 36 to 33 credits to align with new ISTE.C accreditation standards and designed new keystone assignments for all courses.  
• Life Science added more teaching models in the labs, including 3-dimensional modeling software (i.e., computer-assisted learning).  
• Fine Arts began to review and revise undergraduate computer graphics and undergraduate graphic design courses and semester maps. |
| Creating /Revising assignments to better align with learning objectives | • Teacher Candidate Summative Report (TCSR) was revised to incorporate content areas of math, science, social studies, etc., which was an insufficiency found in previous year’s assessment.  
• OT program faculty developed and implemented a new “intervention plan assignment” to provide faculty a better idea of how students are developing in the program. |
| Enhanced collaboration with support services units | • Interdisciplinary Studies worked with Career Services and revamped IDSP 410 this year. |
| Improving program outcomes (e.g., retention, graduation, certification examination passing rate) | • Physician Assistant Studies implemented comprehensive plans to improve students’ licensing examination passing and the passing rate increased from 88% last year to 92% this year.  
• OT has taken steps to increase NBCOT passing rate from last year’s 65% to 85% this year. |

**Table I: Sample Actions to Improve Student Learning and Program Outcomes**

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Table II below shows whether or not each academic program’s assessment processes met the six criteria established by the NYIT Assessment Committee: (√ = meet the criteria, X = no report or did not meet the criteria)

1. The program identified learning outcomes to assess for 13-14 academic year or identified an alternative assessment focus.
2. The program analyzed student work or other evidence of learning;
3. The program come to some conclusions based on the analysis of students work;
4. Using the conclusions from the analysis, the department proposed actions or steps to improve students’ learning;
5. Accountability and a timeline are specified for the actions or interventions;

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Learning outcomes or other focus identified</th>
<th>Student work or other evidence analyzed</th>
<th>Conclusions based on analysis of evidence</th>
<th>Developed actions to improve learning</th>
<th>Timeline and accountabilities specified</th>
<th>Assessment plan for 2014-2015</th>
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<tbody>
<tr>
<td><strong>College of Arts and Science</strong></td>
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<tr>
<td>Life Sciences</td>
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<td>Behavioral Sciences</td>
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<td>√</td>
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<td>√</td>
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<tr>
<td>Fine Arts</td>
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<td>X</td>
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<td>Communication Arts</td>
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<td>B.Arch.</td>
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<td><strong>School of Education</strong></td>
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<tr>
<td>Instructional Technology</td>
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<td>Leadership and Technology</td>
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<td><strong>School of Engineering and Computing Sciences</strong></td>
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<tr>
<td>CS (B.S. M.S.)</td>
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<td>ECE (B.S. M.S.)</td>
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</tbody>
</table>
### Table II: Assessment Reports v. Assessment Committee criteria

1: Fine Arts has a new department chair and she is getting program assessment on track by steps
2: Interior Design and the School of Management have not yet submitted annual reports (as of 11/10/2014)

#### Recommendations

After reviewing the annual report, committee members made following recommendations for improving student learning outcomes assessment at NYIT:
- Create a simplified template for each academic program that readily demonstrates how it is accomplishing its goals and assessing student outcomes at both the degree and course levels. Consider requiring that programs follow the template when they report results to the committee.
- The leadership group should continue its focus on improving the overall quality of assessment at the institution.
- The committee should reflect on the goals, structure, timing, etc. of the twice-yearly “Assessment Days.” Staff will prepare a report summarizing what has been done since the practice was begun in January 2009, what the outcomes were, and what surveys indicate about faculty response. The committee should consider the report and propose changes to the model as appropriate.
- Because assessment planning, data collection and analysis, interpreting results, planning and implementing appropriate changes to improve learning, and follow-up assessment to gauge progress is so complex, programs should consider appointing a member of the faculty to serve as coordinator.
- The Committee should provide feedback to programs on the degree to which their assessment reports from AY2013-14 met the six quality criteria; programs that didn’t meet all six criteria should provide explanations and plans for improvement.