Assignments on the Road to Learning in All Spaces

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NILOA

NILOA’s mission is to discover and disseminate effective use of assessment data to strengthen undergraduate education and support institutions in their assessment efforts.

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We are pleased to announce the release of a new NILOA book, *Degrees that Matter: Moving Higher Education to a Learning System Paradigm*. The book is available now.

Application materials for the 2018 Excellence in Assessment Designation are now available!

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**In the News | Archive**

**How to Revamp a Curriculum**
Thu, Feb 01, 2018 - 08:00 am
The Chronicle of Higher Education

The Chronicle for Higher Education has a Special Report containing four articles focused on revamping the curriculum to keep programs up-to-date, meet industry needs, keep programs and courses current, and maintain quality.

**Microcredentials, MicroMasters, and Nanodegrees: What's the Big Idea?**
Thu, Feb 01, 2018 - 08:00 am
Cathael Kazir for The EdLabs

This author explores the potential that microcredentials have for reforming the higher education credentialing landscape. Microdegrees can represent different ways of communicating the value of a postsecondary education.

**What Gallup Learned About Higher Education**
Thu, Feb 01, 2018 - 08:00 am
Zac Auer for Gallup News

New research by Gallup discusses the importance of students conveying the value of their education to future employers. One way institutions can help is by encouraging internships or work-integrated learning during college that can give students a greater understanding of their degree and the skills they have learned.
Institutional or Program Improvement
Learning Improvement
Assessment That Matters

It is not an unattainable promise land...

We see the field moving in that direction with the most valuable source of institution-level assessment results being <drum roll>

Classroom-based assessment
“We all have these things that we’re subconsciously looking for when we grade assignments...that we’re regularly disappointed with. And then you get to poking around in your assignments and realize that nowhere in there did you ever really ask them to demonstrate those things.”
Assignments as Assessments

Faculty are working to create a curriculum that intentionally builds in integrated learning opportunities over time for students to apply and practice as well as transfer their knowledge and skills through assignments, in and out of courses.
Assignments as a way into:

- Scaffolding Learning
- Learning Outcomes
- Evaluative Criteria
NILOA Assignment Library

80+ assignments

Contributed by faculty from a wide range of fields and institutional types

Online, indexed, and searchable

With a scholarly citation and Creative Commons license

Stimulating assignment work on campuses

www.assignmentlibrary.org
How assignments connect
Program View

General Education

Major

Assignment

Scaffolding Learning

Learning Outcomes

Evaluative Criteria
Connections

Scaffolding Learning

Assignment

- Learning Outcomes
- Evaluative Criteria

Employers (innovation challenges)

Co-curricular (experience mapping, on-campus employment)
Connection Points

To ensure student success, it’s how all of the pieces connect together to support collective development of active and engaged learners.
Resources for Implementing
Transparency in Assignments

Transparency in Teaching and Learning: https://www.unlv.edu/provost/teachingandlearning

Purpose
Skills you’ll practice by doing this assignment
Content knowledge you’ll gain from doing this assignment
How you can use these in your life beyond the context of this course, in and beyond college

Task
What to do
How to do it (Are there recommended steps? What roadblocks/mistakes should you avoid?)

Criteria
(Are you on the right track? How to know you’re doing what’s expected?)

Annotated examples of successful work
(What’s good about these examples? Use the checklist to identify the successful parts.)
The Learning Systems Paradigm

![Diagram of the Learning Systems Paradigm with sections labeled: Learner-Centered, Communicated, Aligned, and Consensus-Based.]

*DEGREES THAT MATTER: Moving Higher Education to a Learning Systems Paradigm* by Natasha A. Jankowski and David W. Marshall
Questions and discussion

Email: niloa@education.illinois.edu

http://www.learningoutcomesassessment.org
www.assignmentlibrary.org
A NEW KIND OF CORE: INTEGRATING A CORE CURRICULUM INTO STEM

Maggie Braun – Associate Dean for Undergraduate Affairs
Ken Hovis – Assistant Dean for Educational Initiatives
*Mellon College of Science*
The Mellon College of Science (MCS)

One of 6 undergraduate colleges at Carnegie Mellon University

Four departments:
- Biological Sciences
- Chemistry
- Mathematical Sciences
- Physics

Holistic advising incorporates students’ academic planning with personal and professional development through coursework with advisors
Historical perspective on development of new Core Education

- 2008 Middle States Accreditation Process
  - Recognized the historical rather than the pedagogical reasons for our current core program

- Feedback from MCS Alumni
  - Felt CMU did NOT prepare them well to maintain a balance between personal life and career and lead a healthy lifestyle
  - Felt unclear as to how their intellectual breadth coursework connected to their major

- Began revision process in January of 2010 and implemented new Core requirements in Fall 2015 in Pittsburgh and Fall 2016 in Doha, Qatar
Vision for a New Core was forward-thinking

- Science education in the 21st Century demands educational experiences that are much broader than the traditional preparation of a scholar in a chosen field of science.

- There was a desire to position students to be self-directed and make decisions about their personal and professional development based on self-reflection.
Comparison of Previous and New Core curricula

<table>
<thead>
<tr>
<th>Previous Core</th>
<th>New Core</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set of Technical and Nontechnical requirements</td>
<td>Set of Technical and Nontechnical requirements</td>
</tr>
<tr>
<td>Inflexible in Technical requirements, some flexibility in Nontechnical areas</td>
<td>Very flexible in all areas</td>
</tr>
<tr>
<td>Focused on <a href="#">intellectual</a> development of student</td>
<td>Focused on <a href="#">holistic</a> development of student</td>
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<td></td>
<td>Integrates advising into curriculum</td>
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</table>
New Core Education aims to develop students in “4 dimensions”

- Scholar
- Professional
- Person
- Citizen
Technical requirements of new Core Education

Created more open-ended Technical Core with four required categories

- Life Sciences
  - Computational Biology, Biology, Physiology, Psychology

- Physical Sciences
  - Chemistry and Physics

- Mathematics, Statistics and Computer Science

- STEM Elective
Non-technical Requirements of new Core Education

9 units  Interpretation and Argument (first-year writing)
6 units  First-Year Seminar: EUREKA! Discovery and Its Impact
6 units  **MyCORE** (My Comprehensive Online Record of Experiences)
        Engage in Wellness   three 1-unit courses
        Engage in the Arts   2 units
        Engage in Service    1 unit
6 units  Junior-Year Seminar: PROPEL
9 units  Cultural/Global Understanding
36 units Arts, Humanities, and Social Sciences Electives
EUREKA! first-year seminar focuses on scientists instead of science

Completed in fall of First Year and focuses on 3 main topics:

- Supporting the transition from high school to college
- Allow students to see themselves as scientists/mathematicians
- Building community in science college
PROPEL third-year seminar focuses on life after graduation

Completed in spring of third year and focuses on 3 main topics:

- Professional development and life skills
- Entrepreneurism and Innovation
- Interplay between science, society, public policy, and business
ENGAGE courses require students to direct their own learning

1) **Wellness**
   A. Students take mini 3 times (years 2-4)
   B. Reflect on different areas of wellness/ develop plans for improvement
      • *Looking Inward*
      • *Looking Outward*
      • *Looking Forward*

2) **Arts**
   A. Students attend 8 arts events over the 4 years
   B. Document/reflect on experience

3) **Service**
   A. 15 hours of service (goal) + reflection on experience(s)
Assessment planning

A LEAD committee has been created to oversee the assessment of the MCS Core Education

LEAD = Learning Science, Engage, Analyze, and Develop

- Members include tenure- and teaching-track faculty from MCS, Student Affairs, and the Vice Provost for Education
- Carry out regular reviews of advances in the science of learning
- Conducts periodic assessments of outcomes related to CORE
- Develop changes needed to continuously improve the CORE
Conclusions

• We’ve created a unique Core Education that provides students with a “tool-kit” for successful life-long learning

• We truly integrated academic advising into the college curriculum

• Created a framework to assess, analyze, and continuously improve the MCS Core Education

• Other colleges at CMU are using our curriculum as a model as they work through their own revisions
Acknowledgements

**MCS Deans/Associate Deans**
- Fred Gilman (2010-16)
- Rebecca Doerge (2016-present)
- Eric Grotzinger (2010-2015)

**MCS advisors**
- Becki Campanaro
- Kunal Ghosh
- Jason Howell
- Karen Stump

**Eberly Center for Teaching and Learning**
- Heather Dwyer
- Chad Hershock
- Marsha Lovett
- Emily Weiss

**LEAD Committee**

**Vice Provost for Education**
- Amy Burkert

**Division of Student Affairs**
- John Hannon
- Lucas Christain
- Holly Hippensteel
- Angie Lusk
- Elizabeth Vaughn

**Career and Professional Development Center**
- Katie Cassarly
- Kevin Monahan
- Rachel Rosenfeld

**EUREKA! Instructors**

**Swartz Center for Entrepreneurship**
# Sample of Global/Cultural Understanding Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CULTURAL/GLOBAL UNDERSTANDING</td>
<td>57-173</td>
</tr>
<tr>
<td>57-209</td>
<td>The Beatles</td>
</tr>
<tr>
<td>57-306</td>
<td>World Music</td>
</tr>
<tr>
<td>70-342</td>
<td>Managing Across Cultures</td>
</tr>
<tr>
<td>73-331</td>
<td>Political Economy of Inequality and Redistribution</td>
</tr>
<tr>
<td>76-221</td>
<td>Books You Should Have Read By Now</td>
</tr>
<tr>
<td>76-232</td>
<td>Introduction to African American Literature</td>
</tr>
<tr>
<td>76-241</td>
<td>Introduction to Gender Studies</td>
</tr>
<tr>
<td>79-104</td>
<td>Global Histories</td>
</tr>
<tr>
<td>79-201</td>
<td>Introduction to Anthropology</td>
</tr>
<tr>
<td>79-221</td>
<td>Development and Democracy in Latin America</td>
</tr>
<tr>
<td>79-229</td>
<td>Origins of the Arab-Israeli Conflict, 1880-1948</td>
</tr>
<tr>
<td>79-242</td>
<td>African American History: Reconstruction to the Present</td>
</tr>
<tr>
<td>79-255</td>
<td>Irish History</td>
</tr>
<tr>
<td>79-261</td>
<td>The Last Emperors: Chinese History and Society, 1600-1900</td>
</tr>
<tr>
<td>79-265</td>
<td>Russian History: From the First to the Last Tsar</td>
</tr>
<tr>
<td>79-345</td>
<td>Roots of Rock &amp; Roll</td>
</tr>
<tr>
<td>79-349</td>
<td>The Holocaust in Historical Perspective</td>
</tr>
<tr>
<td>79-377</td>
<td>Food, Culture, and Power: A History of Eating</td>
</tr>
<tr>
<td>80-100</td>
<td>Introduction to Philosophy</td>
</tr>
<tr>
<td>80-250</td>
<td>Ancient Philosophy</td>
</tr>
<tr>
<td>80-255</td>
<td>Pragmatism</td>
</tr>
<tr>
<td>80-276</td>
<td>Philosophy of Religion</td>
</tr>
<tr>
<td>82-xxx</td>
<td>Any course from Modern Languages</td>
</tr>
<tr>
<td>99-241</td>
<td>Revolutions of Circularity</td>
</tr>
<tr>
<td>99-3xx</td>
<td>Any of the Country Today courses</td>
</tr>
</tbody>
</table>
MyCORE (My Comprehensive Online Record of Experiences)
Engage in the Arts

This course was created to support students’ development in not only cultural understanding, but their personal development while they are an undergraduate student. By the end of the course, students should be able to demonstrate knowledge of the arts, humanities and social sciences as well as describe multiple similarities and differences between one’s own culture and that of others.

You are encouraged to select events that:
- Broaden your knowledge of the fine arts.
- Extend your global and cultural awareness.
- Facilitate the further development of your self-identity.

The Assistant Dean for Educational Initiatives, Dr. Kim Hovis, will be responsible for oversight of the course. Academic advisors will also be involved in the final reviews of the reflection statements as part of their degree certification process. For questions or concerns, please contact Dr. Hovis at khouvis@cmu.edu.

Students must complete the following in order to pass the course:
Attend at least one event from each of the following categories and of those events, select at least two events that expose you to a culture different from your own. For a list of events, please see the calendar:
- Exhibition (a gallery or artwork display)
- Concert (a musical work performed solo or in a group)
- Theatrical performance (a scripted or unscripted performance which may or may not contain singing and/or dancing)
- Lecture with Fine Arts focus (an expert discussing a specific area of art)
- Why not participatory/engage in "making" art

Attend 8 events and submit:
- Mini reflection, ideally within the same semester
- A final reflection must be submitted prior to penultimate semester
Core rollout on Qatar campus

• Changed the nature of the team projects as there is only one major represented

• Spend more time on metacognition and learning skills early in the semester

• Customized topics to take advantage of common cohort classes (note-taking)
Lessons Learned in Planning/Development of New Core

• Diversity in committees is important

• Divide the work among subgroups of “experts”

• True inclusion and valuation of Student Affairs, the Career Center, and Teaching Center staff VASTLY improved our conversations and output

• Time on task is significant--Committees met weekly through academic year (and summer of 2015 to finalize course offerings)

• No Education Department at CMU—could’ve used pedagogical process resources
Lessons Learned in Implementation

• Frequent feedback from students, advisors, and instructors led to significant changes in first-year seminar over 3 offerings
  • Sequencing and coordination of information
  • Collecting feedback from students in real-time
  • Team project component changed significantly

• ENGAGE courses were updated after first implementation
  • Length of essays
  • Description of essay requirements