Getting Better in Greening the Big Apple

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Presentation at the Office of Sustainability, NYC Department of Education
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Center on Sustainability Analysis & Educational Progress*

*TEACHERS COLLEGE COLUMBIA UNIVERSITY
A Graduate School of Education, Health & Psychology
Sustainable Development
Sustainable Development

Environment

Society

Economy
PlaNYC 2030 and OneNYC

- Efforts to address the City’s long-term challenges of climate change:
  - Focus on issues of urban development such as rapid population growth, affordable housing, and transportation
  - All City agencies must make progress on twenty-nine sustainability indicators by 2030, including recycling, waste diversion, greenhouse emissions, water conservation, and energy efficiency
Chancellor’s Regulation A-850

• Office of Sustainability, established in 2009 within the Division of School Facilities
  – Recycling
  – Energy conservation
  – Green curriculum initiatives

• Policy instrument: Requiring every public school to appoint a Sustainable Coordinator
Research Questions

• Who are the Sustainable Coordinators?

• What is the meaning of “sustainability” and “sustainable school”?

• How do schools engage and implement Chancellor’s Regulation A-850?

• What supports and resources are available for Sustainable Coordinators?
Data & Methods

• DOE surveys

<table>
<thead>
<tr>
<th></th>
<th>AY 2016/17</th>
<th>AY 2017/18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainability Plan</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Annual Sustainability Survey</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

• Interviews and focus groups
• Case studies
Who are the Sustainable Coordinators?
Public schools with sustainability coordinator, by borough

- Bronx: 77.8%
- Brooklyn: 77.9%
- Manhattan: 76.5%
- Queens: 82.7%
- Staten Island: 90.9%
- Grand Total: 79.3%
Main position in school

- Teacher: 44%
- Assistant Principal: 30%
- Principal: 30%
- Other: 26%
Other information...

• 1/3 of Coordinators are new to the role

• 1/2 of Coordinators have 8+ years of experience in their school, and 1/3 have 3 to 7 years of experience in their school
Main subject for teachers

- Science: 49%
- Special Education: 10%
- English Language Arts: 6%
- Physical Education: 6%
- Mathematics: 5%
- Social Studies / History: 3%
- Arts / Humanities: 3%
- Second Language: 2%
- Vocational subject: 1%
- Other: 16%
Share of Sustainability Coordinators who volunteered for the role

- Fall 2016: 12%
- Fall 2017: 25%
Would you be willing to continue serving as your school’s Sustainability Coordinator next year?

Spring 2017:
- Definitely willing: 51%
- Probably willing: 35%
- Probably not willing: 10%
- Definitely not willing: 4%

Spring 2018:
- Definitely willing: 48%
- Probably willing: 39%
- Probably not willing: 9%
- Definitely not willing: 4%
Reasons for willing to continue serving as a sustainability coordinator
Which of the following environmental problems are the most important for New York City as a whole?

- Waste: 50%
- Food waste: 44%
- Air pollution: 42%
- Water quality: 25%
- Climate change: 24%
- Chemicals and pesticides: 15%
- Using up our natural resources: 14%
- Infrastructure resilience: 13%
- Biodiversity: 4%
What is the meaning of “sustainability” and “sustainable school”? 
Examples

• “Ensuring a good recycling, reusing program, to impart knowledge on students and staff on conserving energy...” (ID 308)

• “...To always act in the best interests of protecting existing resources and extending the longevity of the planets re-usable resources...” (ID 404)
Examples

• “It means civic responsibility to our planet!” (ID 1025)

• “To be "sustainable" is to have endless viability - not only as a society or a physical city, but as an integrated ecosystem, working in tandem with the world around us” (ID 1075)
Common themes in definitions of “sustainable development”

- First person (I/we/our): 42%
- 3Rs = Reduce reuse recycle: 31%
- Environment = Environmental focus: 30%
- Waste = Prevent waste: 25%
- School = Place: school level: 18%
- Saving = Protect resources: 17%
- Global/Planet = Place: global: 14%
- Footprint = Minimize footprint: 13%
- Knowledge = Knowledge transmission: 12%
- Future = Future: 11%
- Behaviors = Actions behaviors practices: 10%
Common themes in definitions of “sustainable development”
Sustainable Development

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs”

(Brundtland Report 1987)
What a sustainable school is or does?

- [...] excels in recycling paper and plastic
  - Very important: 79%
  - Somewhat important: 19%
  - Somewhat unimportant: 1%
  - Not important: 1%

- [...] involves all stakeholders in green initiatives
  - Very important: 66%
  - Somewhat important: 29%
  - Somewhat unimportant: 5%

- [...] infuses sustainability topics through other subjects
  - Very important: 59%
  - Somewhat important: 36%
  - Somewhat unimportant: 5%

- [...] engages students through a Green Team
  - Very important: 59%
  - Somewhat important: 36%
  - Somewhat unimportant: 5%

- [...] engages parents in sustainability activities
  - Very important: 58%
  - Somewhat important: 37%
  - Somewhat unimportant: 6%

- [...] installs solar panels to generate energy
  - Very important: 31%
  - Somewhat important: 44%
  - Somewhat unimportant: 17%
  - Not important: 8%

- [...] offers a separate class on sustainability education
  - Very important: 27%
  - Somewhat important: 49%
  - Somewhat unimportant: 17%
  - Not important: 8%

- [...] has a green roof
  - Very important: 22%
  - Somewhat important: 46%
  - Somewhat unimportant: 22%
  - Not important: 11%
How do schools engage and implement Chancellor’s Regulation A-850?
Communication & Education

- Infuse sustainability-related content into curriculum
  - Spring 2017: 47%
  - Spring 2018: 45%

- Communicate sustainability successes, programs and opportunities
  - Spring 2017: 44%
  - Spring 2018: 43%

- Create or continue to operate a school garden
  - Spring 2017: 36%

- Hold a sustainability-related outreach campaign*
  - Spring 2017: 25%
  - Spring 2018: 29%

- Organize an event or program in conjunction with Earth Day
  - Spring 2017: 28%

- Deliver weekly announcements/reminders
  - Spring 2017: 20%
  - Spring 2018: 21%

- Conduct a faculty workshop on a sustainability topic/issue
  - Spring 2017: 20%
  - Spring 2018: 18%

- None*
  - Spring 2017: 15%
  - Spring 2018: 22%

- Other*
  - Spring 2017: 12%
  - Spring 2018: 16%

*Indicates results from the previous year.
### Communication & Education: Planed vs. Implemented

<table>
<thead>
<tr>
<th>Activity</th>
<th>Planed</th>
<th>No Plan</th>
<th>Plan / No Action</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communicate sustainability successes, programs and opportunities</td>
<td>28%</td>
<td>16%</td>
<td>26%</td>
<td>30%</td>
</tr>
<tr>
<td>Create or continue to operate a school garden</td>
<td>28%</td>
<td>16%</td>
<td>7%</td>
<td>49%</td>
</tr>
<tr>
<td>Infuse sustainability-related content into curriculum</td>
<td>28%</td>
<td>13%</td>
<td>17%</td>
<td>43%</td>
</tr>
<tr>
<td>Organize an event or program in conjunction with Earth Day</td>
<td>22%</td>
<td>33%</td>
<td>6%</td>
<td>38%</td>
</tr>
<tr>
<td>Hold a sustainability-related outreach campaign*</td>
<td>15%</td>
<td>17%</td>
<td>14%</td>
<td>54%</td>
</tr>
<tr>
<td>Conduct a faculty workshop on a sustainability topic/issue</td>
<td>11%</td>
<td>23%</td>
<td>8%</td>
<td>59%</td>
</tr>
<tr>
<td>Deliver weekly announcements/reminders</td>
<td>11%</td>
<td>17%</td>
<td>10%</td>
<td>63%</td>
</tr>
</tbody>
</table>

Legend:
- **Plan and Action**: Complete plan and implementation
- **Plan / No Action**: Planned but no implementation
- **No Plan**: Not planned
- **None**: Not completed or not applicable
Student green team

- Green team: 27% (Fall 2016), 36% (Fall 2017)
- Plan to establish: 62% (Fall 2016), 47% (Fall 2017)
Recycling and ONE NYC Plan

- Encourage printing or copying on both sides of paper: Spring 2017: 70%, Spring 2018: 69%
- Have all proper receptacles and signage in place for recycling: 61%
- Reuse materials for arts & crafts projects: 59% 2017, 60% 2018
- Encourage using electronic resources such as Google Classroom: 48%
- Minimize printing and make these materials available online: 44% 2017, 45% 2018
- Create a school-wide campaign to promote waste reduction*: 38% 2017, 44% 2018
- Assign student monitors to ensure recyclables are placed in bins: 43% 2017, 42% 2018
- Organize a school-wide clothing/shoe drive: 20%
- Reduce use of paper school-wide by 50%: 17%
- Organize an end-of-year cleanout aimed at reusing and/or recycling: 14%
- Host a staff swap to exchange unwanted classroom supplies: 12% 2017, 13% 2018
- Compost organic waste in school garden on-site: 10%
- Enlist non-profit partners to assist with a student-led waste audit: 3% 2017, 4% 2018
- None*: 4% 2017, 7% 2018
- Other*: 7% 2017, 5% 2018

*Note: The percentages for "None*" and "Other*" are not directly related to the other recycling activities and are likely to be calculated separately.
Energy

- Remind staff to turn lights off when rooms are unoccupied: 82% (Spring 2017) / 81% (Spring 2018)
- Remind staff to power down computers and smartboards: 70% (Spring 2017) / 71% (Spring 2018)
- Remind staff to turn off window air conditioning units: 54%
- Remove personal appliances from classrooms and offices: 43%
- Maximize daylighting where possible: 35% (Spring 2017) / 39% (Spring 2018)
- Students and/or staff engage with the Custodian Engineer: 20%
- Hold an awareness campaign on energy conservation*: 8% / 11%
- Participate in energy calendar art contest: 8%
- Enlist non-profit partners to assist with energy audits*: 2% / 6%
- Participate in GSA Green Cup Challenge: 6% / 6%
- Students and/or Staff went on a Boiler Room tour: 5%
- None: 10% / 11%
- Other*: 4% / 6%
Three types of coordinators

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</thead>
<tbody>
<tr>
<td>Integrative Group</td>
<td>Transitional Group</td>
<td>Basic Group</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Three types of coordinators

Q15-1: Turn off lights
Q15-2: Power down computers
Q15-3: Awareness campaign
Q15-4: Maximize daylight
Q15-5: NPO for energy audit
Q15-6: Energy challenge
Q15-7: Reuse art & craft materials
Q15-8: Minimize course catalogue etc
Q15-9: End-of-year cleanout
Q14-1: Recycle campaign
Q14-2: NPO for waste audit
Q14-3: Student monitor
Q14-4: Both sides of paper
Q14-5: Reduce paper by 50%
Q14-6: Staff swap
Q14-7: Reuse art & craft materials
Q14-8: End-of-year cleanout
Q14-9: Minimize course catalogue etc
Q13-1: Outreach campaign
Q13-2: Announcement
Q13-3: Faculty workshop
Q13-4: Communication
Q13-5: Curriculum
Q13-6: Staff swap

Integrative Group
Transitional Group
Basic Group
Three types of coordinators

- Integrative Group (n=230) 18%
- Transitional Group (n=587) 45%
- Basic Group (n=473) 37%
What supports and resources are available for Sustainable Coordinators?
Participation in DOE training

- Yes: 26%
- No: 74%

66% are interested in online training
School Supports for Sustainability Coordinators

- Other: 29%
- I receive prep period(s): 15%
- Club periods: 13%
- Professional period (circular 6): 11%
- Per session: 11%
- I am using professional development hours: 10%
- My position is part of the School-Based Option (SBO): 4%
- My school does not provide any support or structure to facilitate this job: 25%
School supports are impactful: Planned vs. Implemented

- No support
- At least one support
How often are you planning to discuss issues related to school sustainability with the following people?

<table>
<thead>
<tr>
<th>Role</th>
<th>Every week</th>
<th>Two-three times a month</th>
<th>About once a month</th>
<th>About once or twice a year</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>23%</td>
<td>17%</td>
<td>37%</td>
<td>20%</td>
<td>2%</td>
</tr>
<tr>
<td>Principal</td>
<td>13%</td>
<td>15%</td>
<td>48%</td>
<td>23%</td>
<td>1%</td>
</tr>
<tr>
<td>Custodian, Engineer or Building Manager</td>
<td>10%</td>
<td>16%</td>
<td>45%</td>
<td>26%</td>
<td>4%</td>
</tr>
<tr>
<td>School Aides</td>
<td>9%</td>
<td>13%</td>
<td>39%</td>
<td>28%</td>
<td>10%</td>
</tr>
<tr>
<td>Other teachers in your school</td>
<td>7%</td>
<td>11%</td>
<td>47%</td>
<td>33%</td>
<td>2%</td>
</tr>
<tr>
<td>SchoolFood representative</td>
<td>6%</td>
<td>11%</td>
<td>39%</td>
<td>34%</td>
<td>10%</td>
</tr>
<tr>
<td>Parent Volunteer(s)</td>
<td>3%</td>
<td>7%</td>
<td>36%</td>
<td>36%</td>
<td>19%</td>
</tr>
<tr>
<td>PTA</td>
<td>2%</td>
<td>6%</td>
<td>38%</td>
<td>38%</td>
<td>16%</td>
</tr>
</tbody>
</table>
Developing professional capital and amplifying good practices

Are there any other DOE schools from which you would like to learn how to engage with sustainability in your school?
Developing professional capital and amplifying good practices
Conclusion

• Paradox:
  – Weak policy
  – Great buy-in

• Challenges and ways to improve

• Implications for policy and programming
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