Tracking Student Real-Time Experiences in HIPs through a Mobile Application

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April 7, 2016
• Founded in 1957
• 237 Acres Located at North of Orange County about 7.5 miles north of Disneyland
• 39000 Students by Headcount
• Large campus in California State University System
• **Degree programs offered:** 109 (55 undergraduate, 54 graduate, including a doctorate of education and doctorate of nursing practice)
HIPs at CSUF
What are High Impact Practices (HIPs)?

• HIPS occur when students are actively engaged in the learning process.
• Students involved in HIPs report greater gains in learning and personal development.
• Underrepresented students benefit even more when they participate in these practices.

http://www.fullerton.edu/hips/index.php
Common High Impact Practices

• First year seminars
• Common intellectual experiences
• Learning communities
• Writing intensive courses
• Collaborative assignments and projects
• Undergraduate research
• Diversity/global learning
• Service learning/community based learning
• Internships
• Capstone Courses and Projects
Questions...

- How does an institution of over 38,000 ensure that students get HIPs?
- How do we define HIPs?
- How do we get faculty on board to teach HIPs?
- How do we know which HIPs we should be focusing on?
CSUF’s Strategic Plan

• Goal #2:

  “Improve student persistence, increase graduation rates university-wide and narrow the achievement gap for underrepresented students”

• Objective:

  “Increase participation in HIPs and ensure that 75% of CSUF students participate in at least two HIPs by graduation”
Strategic Plan Task Force

- Defining HIPs
- Assessment of HIPs on Retention and Graduation
- Developing a System for Creating a HIP campus
Assessment of HIPs (Positive Findings)

• Freshman Programs
• Supplemental Instruction
• Study Abroad Programs
• Residence Halls
• Undergraduate Research
Transforms students through multiple High Impact Practices by

1. Engaging in Research and creative activity
2. Participating in Experiential learning
3. Investing time and energy in Active learning
4. Contributing to the local, regional, or global Community
5. Experiencing diversity through Human exploration
Defining HIPs

High Impact Practices are transformational learning opportunities inside and outside of the classroom that provide:

- performance expectations at appropriately high levels
- significant student engagement by investment of time and effort
- meaningful and substantive learning interactions with faculty, staff, students, or external entities
- experiences with diversity*, complexity, and change
- frequent and meaningful feedback
- reflective and integrated learning
- experiential learning

*wherein students are exposed to and must contend with people and circumstance that differ from those with which students are familiar (AAC&U Publication Taking HIPs to the Next Level - George D. Kuh)
Faculty Support

The IMPACT Teaching Certificate  *Intentional and Meaningful Pedagogy to Achieve Classroom Transformations*

This new certificate addresses the basic pedagogical elements that make high-impact practices so transformative and guides you to apply high-impact practices to a new course or an existing course that you want to improve.

http://fdc.fullerton.edu//teaching/hips.php
Tracking
# Data Collection Overview

<table>
<thead>
<tr>
<th>What to measure</th>
<th>How to measure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>P1 Student Participation</strong></td>
<td>- Nature of experience offered</td>
</tr>
</tbody>
</table>
|  |  - Course/Program description *(Data provided by faculty/staff)*  
|  |  - Student self-reported log  
|  |  - Attendance data *(Data collected by university)*  |
| **P2 Student Learning** |  - Anticipated student outcomes & performance expectations |
|  |  - Pre & Post assignments embedded in course/program *(Data provided by faculty/staff)*  |
| **P3 HIP Characteristics** |  - Meaningful and substantive learning interactions with faculty, staff, students or external entities  |
| **P4** |  - Opportunities to experience diversity, complexity, and change  |
| **P5** |  - Opportunities for frequent and meaningful feedback  |
| **P6** |  - Considerable time and effort invested by students  |
| **P7** |  - Opportunities for reflective and integrated learning  |
| **P8** |  - Opportunities for experiential learning  |
HIPs Process: University Perspective

Academic Affairs HIPs Based on HIPs Inventory

HIP Revised Definition

Pre-HIP Status: Based on revised definition

HIPs Matrix

HIP Potential: Develop faculty/staff champions

3 years Data Collection

HIP Designation: Established HIP courses/programs

Yearly Data Collection

Student Affairs HIPs Based on HIPs Inventory
HIPs Process: Faculty/Staff Perspective

1. **Existing or New Course/Program:** Faculty/Staff volunteer
2. **Dept/College Approval:** Based on revised definition
3. **HIP Pre-Matrix:** Completed by faculty/staff
4. **HIP Data Collection:** Based on HIP Matrix
5. **Student Participation:** Attendance; Tracking
6. **HIP Characteristics:** Tracking; Post Survey
7. **Student Learning:** Pre/Post Assignment
8. **HIP Designation:** Established HIP course/program
9. **3 years Data Collection**
HIPs Tracking

1. Full tracking
   - HIPs Matrix
     • Category Mapping
   - LMS Tracking
   - iFullerton Tracking

2. Partial Tracking
   - HIPs Matrix
     • Category Mapping
   - LMS Tracking

3. Manual Tracking
   - HIPs Matrix
     • Category Mapping
HIPs Full Tracking

Technology Tools
Data Collection

Learning
Management
System HIPs
Templates

PeopleSoft
Tracking and
Designation
Feasibility of Full Tracking

Do you own a Smartphone?

- iPhone: 13225 (64%)
- Android: 6020 (29%)
- Windows: 271 (2%)
- Other: 401 (2%)
- No Smartphone: 654 (3%)
Data Collection Technology Tools

Reporting
Data Collection Technology Tools

Attendance

- iBeacon deployed in all classrooms
Translating Tracking to HIPs Data: Titanium Reports

- **Student Participation & HIP Characteristics**

### High Impact Practices Activity Report

**Fall 2015 EGCE 377-01 12965**

<table>
<thead>
<tr>
<th>CWID</th>
<th>Name</th>
<th>Consent</th>
<th>Attendance</th>
<th>Hours spent working with group and interactions with instructor</th>
<th>Hours spent working alone</th>
<th>Exposure to new environment</th>
<th>Assignments with meaningful feedback</th>
<th>Assignment prior feedback was used</th>
<th>Opportunities to learn by doing</th>
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<td>4</td>
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Translating Tracking to HIPs Data: Titanium Reports

- Student Participation & HIP Characteristics (Detailed)

<table>
<thead>
<tr>
<th>Add/Remove</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Record time</th>
</tr>
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<tbody>
<tr>
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<td>33.927340</td>
<td>-117.878899</td>
<td>9/14/2015 12:06:39 PM</td>
</tr>
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<td>9/14/2015 12:06:41 PM</td>
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<td>9/14/2015 12:06:42 PM</td>
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<td>Add</td>
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<td>0</td>
<td>10/19/2015 1:00:19 PM</td>
</tr>
</tbody>
</table>
Student Perceptions of HIPs Experience: Post Survey

• Similar items corresponding to each of the HIP characteristics

Meaningful and Substantive Interactions with Instructor(s)

1. How much time, over the entirety of the course, have you spent in meaningful interactions (including class sessions) with the instructor(s)?

   0-10 hour  11-20 hours  21-30 hours  More than 30 hours

To what extent do you agree with the following statements:

2. I have had adequate opportunities to interact (including class sessions) with the instructor(s).

<table>
<thead>
<tr>
<th>Completely Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Completely Agree</th>
</tr>
</thead>
</table>

3. My interactions with the instructor(s) was helpful for my academic or personal growth.

<table>
<thead>
<tr>
<th>Completely Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Completely Agree</th>
</tr>
</thead>
</table>
HIPs Pilot Fall 2015: Curricular

• 33 curricular courses participating in HIPs Tracking Pilot
  – ECS = 5 (4 full)
  – NSM = 8
  – HHD = 5 (4 full)
  – COMM = 7 (6 full)
  – HSS = 8

• 14 courses using full tracking through iFullerton

• 950 students participating in curricular HIPs
HIPs Pilot Fall 2015: Co-Curricular

• HIPs Tracking has been implemented in 7 Co-Curricular Sites:
  – Associated Students Inc.
    • Governance
    • Programming
  – Athletics
  – Resident Advisors
    • Senior Resident Advisors
    • Resident Advisors
  – Housing Theme Floors
    • Arts Theme District
    • Health and Human Development Theme Housing
HIPs Pilot Spring 2016: Curricular

• 58 curricular courses participating in HIPs Tracking Pilot
  – ART = 4 (4 full)
  – Business = 7 (6 full)
  – COMM = 12 (12 full)
  – ECS = 10 (10 full)
  – Education = 1 (1 full)
  – HHD = 7 (7 full)
  – HSS = 9 (7 full)
  – NSM = 9

• 47 courses using full tracking through iFullerton
HIPs Pilot Spring 2016: Co-Curricular

• HIPs Tracking has been implemented in 7 Co-Curricular Sites:
  – Associated Students Inc.
    • Governance
    • Programming
  – Athletics
  – Resident Advisors
    • Senior Resident Advisors
    • Resident Advisors
  – Housing Theme Floors
    • Arts Theme District
    • Health and Human Development Theme Housing
Results
Tracking vs. Faculty Expectation - Interactions

Course specific Tracking minus Expectations [P3 - Interaction - No Outliers]
Tracking vs. Faculty Expectation - Diversity

Course specific Tracking minus Expectations [P4 - Diversity - No Outliers]
Tracking vs. Faculty Expectation - Feedback

Course specific Tracking minus Expectations [P5 - Feedback - No Outliers]
Tracking vs. Faculty Expectation – Time Investment

Course specific Tracking minus Expectations [P6 - Time - No Outliers]
Tracking vs. Faculty Expectation - Experiential

Course specific Tracking minus Expectations [P8 - Experiential - No Outliers]
Q1: Is the strategic plan goal met (i.e. student participation)?

AA:
1059 students in 35 courses from 4 colleges

*Small sample size*

![Bar chart showing AA Participants](chart.png)
Q4: What are students’ experiences in HIPs – Quality?

AA: Student Survey responses to “The opportunities are adequate”
Q4: What are students’ experiences in HIPs – Perceived gains?

AA: Student survey responses to “The opportunities are helpful”
Q8: Do students’ perceived gains correlate with actual learning gains?

Average difference in learning gain compared to “Somewhat Disagree” & “Completely Disagree” responses to the statement “The opportunities are helpful”

* P < 0.05
Q10/Q11: Do students of different group have different HIPs experiences (quantity & quality) and perceived gains?

**Q10/Q11 results – AA only; No significant results for SA**

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Odds Ratio (*p&lt;0.05)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male (Comp. Grp: Female)</td>
<td>How many opportunities (\text{reporting less opportunities})</td>
</tr>
<tr>
<td>Interaction-Faculty</td>
<td>1.26</td>
</tr>
<tr>
<td>Interaction-Peer</td>
<td>1.06</td>
</tr>
<tr>
<td>Diversity</td>
<td>1.36</td>
</tr>
<tr>
<td>Feedback</td>
<td>1.51*</td>
</tr>
<tr>
<td>Time/Effort</td>
<td>1.38</td>
</tr>
<tr>
<td>Reflective/Integrative</td>
<td>1.38</td>
</tr>
<tr>
<td>Experiential</td>
<td>1.07</td>
</tr>
</tbody>
</table>

Predictors included in the model: Gender, URM, FirstGen, Age at entry, Pell eligibility
Q10/Q11: Do students of different group have different HIPs experiences (quantity & quality) and perceived gains? (cont.)

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>How many opportunities (reporting less opportunities)</th>
<th>The opportunities are adequate (reporting more positive responses)</th>
<th>The opportunities are helpful (reporting more positive responses)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>URM</strong> (Comp. Grp: Non-URM)</td>
<td>0.79</td>
<td><strong>1.63</strong>*</td>
<td><strong>1.53</strong>*</td>
</tr>
<tr>
<td>Interaction-Faculty</td>
<td>0.84</td>
<td>1.10</td>
<td>0.93</td>
</tr>
<tr>
<td>Diversity</td>
<td>1.14</td>
<td>0.88</td>
<td><strong>1.52</strong>*</td>
</tr>
<tr>
<td>Feedback</td>
<td>1.17</td>
<td>0.88</td>
<td>1.04</td>
</tr>
<tr>
<td>Time/Effort</td>
<td>0.76</td>
<td><strong>1.49</strong>*</td>
<td>1.43</td>
</tr>
<tr>
<td>Reflective/Integrative</td>
<td>1.27</td>
<td>0.88</td>
<td>1.00</td>
</tr>
<tr>
<td>Experiential</td>
<td>0.80</td>
<td>1.20</td>
<td>1.14</td>
</tr>
</tbody>
</table>
Q12: Do students of different groups have different learning gains?

| Estimate | Std. Error | z value | Pr(>|z|) |
|----------|------------|---------|----------|
| (Intercept) | 0.15 | 0.04 | 3.47 | 0.00* |
| URM | -0.01 | 0.02 | -0.67 | 0.51 |
| Male | -0.12* | 0.02 | -6.32 | 0.00* |
| FirstGen | 0.01 | 0.02 | 0.49 | 0.63 |
| Age at Entry < 25 | 0.03 | 0.04 | 0.79 | 0.43 |
| Pell Eligible | 0.00 | 0.02 | 0.01 | 0.99 |

Dependent variable: Learning gain (Post% - Pre%)
### Preliminary Findings Summary: Based on Fall 2015 Data (mostly AA data)

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Preliminary Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 Is the strategic plan goal met (i.e. student participation)?</td>
<td>n/a</td>
</tr>
<tr>
<td>Q2 Does HIPs participation lead to positive learning gains?</td>
<td>Yes</td>
</tr>
<tr>
<td>Q3 Does HIPs implementation reflect faculty/staff intentions?</td>
<td>Varies by course/program</td>
</tr>
<tr>
<td>Q4 What are students’ experiences in HIPs (quantity and quality)?</td>
<td>Generally positive</td>
</tr>
<tr>
<td>Q5 Is there any dosage effect of the HIP characteristics on the perceived gains?</td>
<td>Yes for all characteristics (positive)</td>
</tr>
<tr>
<td>Q6 Is there any dosage effect of the HIP characteristics on the learning gains?</td>
<td>Yes for some characteristics (mostly positive)</td>
</tr>
<tr>
<td>Q7 Is there any dosage effect of the HIP characteristics on retention/graduation?</td>
<td>N/A</td>
</tr>
<tr>
<td>Q8 Do students’ perceived gains correlate with actual learning gains?</td>
<td>Only for “Interaction-Faculty” (positive)</td>
</tr>
<tr>
<td>Q9 Do students’ learning gains correlate with retention/graduation?</td>
<td>N/A</td>
</tr>
<tr>
<td>Q10 Do students of different groups have different HIPs experiences (quantity &amp; quality)?</td>
<td>Yes for some demographic variables (Gender; URM status; Age at entry; Pell eligibility)</td>
</tr>
<tr>
<td>Q11 Do students of different groups have different perceived gains?</td>
<td></td>
</tr>
<tr>
<td>Q12 Do students of different groups have different learning gains?</td>
<td>Yes for gender</td>
</tr>
<tr>
<td>Q13 Do students of different groups have different retention/graduation rates?</td>
<td>N/A</td>
</tr>
<tr>
<td>Q14 Does HIPs participation lead to higher retention/graduation?</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Thank you!