HIP to Good Data: IR's Role in Scaling High Impact Practices

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IUPUI

Our Presentation

1. Introduction – What are High Impact Practices (HIPs) and how have they been assessed at IUPUI?
2. Methods of Gathering Data and Assessing HIPs at IUPUI
   - Course Tagging
   - Self-Report Data
   - Program Level Data
   - HIP Taxonomies
   - "The Record"
3. Discussion and Questions

Introduction – What are HIPs and how have they been assessed at IUPUI?

What are HIPs?

- Practices that have been shown to have an impact on student engagement and success (Kuh, 2008)

- 8 Key Characteristics
    - High expectations
    - Significant investment of concentrated effort over an extended period of time
    - Substantive interactions
    - Experiences with diversity
    - Feedback
    - Real-world applications
    - Public demonstration of competence
    - Structured opportunities to reflect and integrate

What are HIPs?

- 11 recognized HIPs (AAC&U, n.d.)
  - First-year seminars
  - Common Intellectual Experiences
  - Learning Communities
  - Writing Intensive Courses
  - Collaborative Assignments
  - Undergraduate Research
  - Diversity/Global Learning
  - ePortfolios
  - Service Learning/Community-based learning
  - Internships
  - Capstone Courses

- Associated with
  - Increased Engagement
  - Deep Learning
  - Greater perceived gains

HIPs at IUPUI

RISE	IEL

IUPUI RISE initiative

Institute for Engaged Learning

Challenges

❖ Johnson & Stage, 2018
  ❖ Examined relationship between offering HIPs and 4 & 6 year graduation rates
  ❖ IPEDS, *Barron's* selectivity, and survey data
    ❖ "Required for all students", "Required for some students", "Optional for students", "Not offered"
  ❖ Findings
    ❖ No correlation between offering HIPs and four or six-year graduation rates
    ❖ *Negative* correlation between Learning Community & four and six-year graduation rates at 16 most selective institutions
    ❖ Internships associated with decreased four-year graduated rates (not six-year graduation rates).

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  - ❖ Examined relationship between **offering** HIPs and 4 & 6 year graduation rates
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  - ❖ Findings
    - ❖ No correlation between offering HIPs and four or six-year graduation rates
    - ❖ *Negative* correlation between Learning Community & four and six-year graduation rates at 16 most selective institutions
    - ❖ Internships associated with decreased four-year graduated rates (not six-year graduation rates).

Challenges

❖ Kuh, O'Donnell, & Schneider (2017)

    ❖ "Headwinds"

        ❖ Expensive to implement

        ❖ Not rewarded in P&T

        ❖ Not in most institutional data systems

           ❖ "That makes them untraceable by traditional tools of institutional research, like federally reported IPEDS data or campus-based Student Information Systems." (p. 14)

But we need this data!

1. External accountability/reporting
    – "How many of our students are doing high impact practices?"

2. Demonstrate effectiveness
    – "Is this worth the investment?"

3. Assessment of student learning
    – "Are our students learning anything from HIPS?"

4. Replicate findings
    – "I heard this will improve retention. Is it working?"

IUPUI HIP Assessment Methods

- Examine program processes (fidelity assessment) and who participates.

- Employ mixed-method designs using qualitative and quantitative methods.

- Attempt to understand how HIPs influence students' success levels (e.g., retention rates, GPAs, engagement, civic outcomes).

- Administer end-of-course or program questionnaires (designed to provide information on students' perceptions of course benefits, learning outcomes, satisfaction levels, why decided to participate).

- Administer local and national surveys (e.g., National Survey of Student Engagement).

- Conduct focus groups and individual interviews.

- Collect direct measures of student learning (e.g., embedded course assessment and e-portfolios).

- Strive to engage in culturally responsive IR and assessment - examine if all students have learning opportunities that are responsive to their needs and at a minimum; we disaggregate outcomes by student groups (e.g., first generation, gender, historically marginalized groups, under-resourced, nontraditional, transfer, first generation, and more).

HIP Program Fidelity

- Fidelity is defined by Webster as "the quality or state of being faithful, the accuracy in details, exactness."

- Program fidelity assessment offers another level of detail about the program as implemented by examining the degree to which interventions are implemented as theoretically planned.

    – Poor Fidelity Examples

        - LC implemented with no integrative learning assignments.

        - SL implemented with no structured reflection.

        - Undergraduate Research with no faculty mentoring.

- It is not possible to test the effectiveness of an intervention if the intervention failed to be implemented as planned (Scott & Sechrest, 1989).

Our methods

Course Tagging	Places an indicator on courses where HIPs occur
Self-report	Participation derived from NSSE or other questionnaires
Program data	Receive lists of participants from program coordinators or on-site data collection
Taxonomies	Quantifying implementation using expert-designed rubric
"The Record"	Record of validated, meaningful learning from participation in high impact practices inside and outside the classroom.

Method 1

Course Tagging

Course Tagging

1. Worked with Registrar to provide indicator if the course was a Research, International, Service, or Experiential (internship, practicum, student teaching, etc.)

2. Course tags assigned by schools

3. Allows us to understand

    –   Which courses include a HIP?

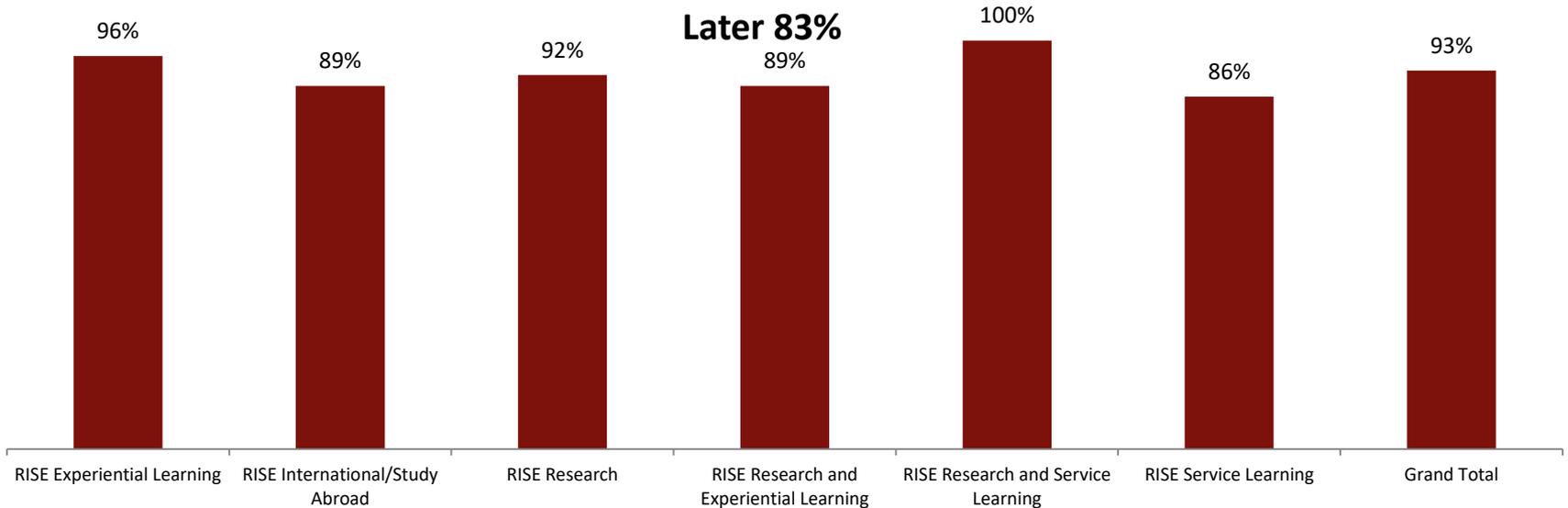   –   Which HIP are students engaged in?

RISE Course Tags Totals by Student

	E		I		R		R &E		R &S		S		Total N
	N	%	N	%	N	%	N	%	N	%	N	%	
Other	282	6%	40	6%	23	3%	1	5%	3	6%	59	2%	408
Native to IU Undergraduates	2963	58%	366	53%	374	57%	15	75%	23	48%	1643	69%	5384
Undergraduate Transfers	1837	36%	225	33%	262	40%	4	20%	21	44%	671	28%	3020
Graduate Degree-Seeking Students	2	0%	54	8%	1	0%		0%	1	2%		0%	58
Grand Total	**5084**	**100%**	**685**	**100%**	**660**	**100%**	**20**	**100%**	**48**	**100%**	**2373**	**100%**	**8870**

Students are counted once for every RISE course enrolled in. They may be enrolled in more than one course tagged as RISE. This is duplicated headcount.

Fall 2016 RISE Course Tags and One-Year Retention

One-Year Retention for all Students in a Course Tagged as RISE
IUPUI Retention Rate for 2016 All Students Retained or Graduated One Year Later 83%

Category	Retention
RISE Experiential Learning	96%
RISE International/Study Abroad	89%
RISE Research	92%
RISE Research and Experiential Learning	89%
RISE Research and Service Learning	100%
RISE Service Learning	86%
Grand Total	93%

Students are counted once for every RISE course enrolled in. They may be enrolled in more than one course tagged as RISE. This is duplicated headcount.

Course Tagging - Limitations

1. Course tags assigned by schools → Inconsistent criteria

2. Not maintained over time

3. Communication to students

Were you aware you were signing up for a RISE course?

	R	S	E	S+R	?
Yes	13 43.3%	38 35.5%	43 60.6%	11 37.9%	11 42.3%
No	17 56.7%	69 64.5%	28 39.4%	18 62.1%	15 57.7%

Method 2

Self-Report

Self-Report

1. Ask students if they have participated in HIPS

2. Early research based on NSSE

    – "Which of the following have you done or do you plan to do?"

    – Examples of scholarly studies (from NSSE website): 17 publications, 10 Scholarly Papers, 29 Presentations

3. Develop your own questionnaire

    – Continuing Student Survey

4. [IUPUI HIP Dashboard](#)

NSSE 2018 Results: HIP Participation First-Year Students

Learning Community, Undergraduate Research, Service Learning

Number of HIP Participated In
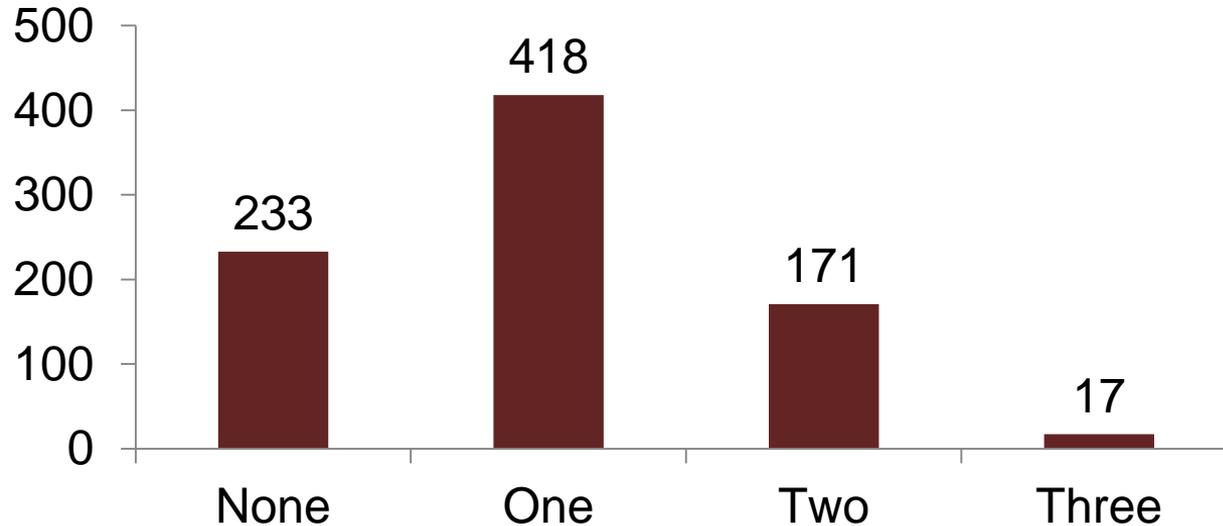
"Two" represents Themed Learning Community-Embedded First Year Seminar and Service Learning. Do not emphasize undergraduate research in FY.
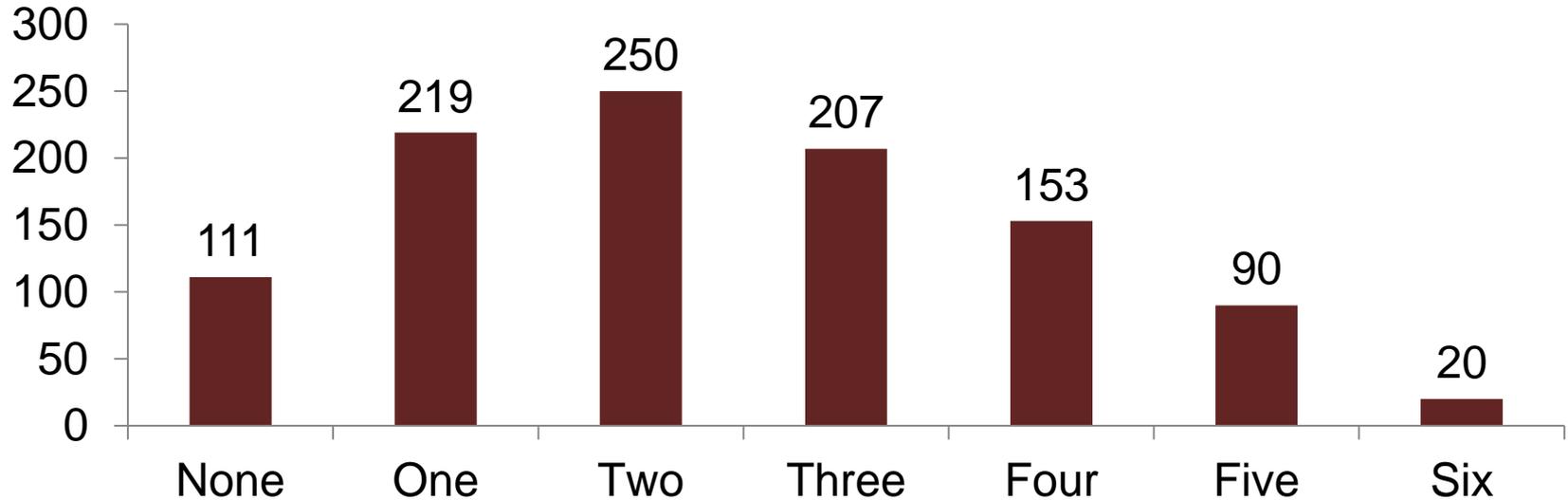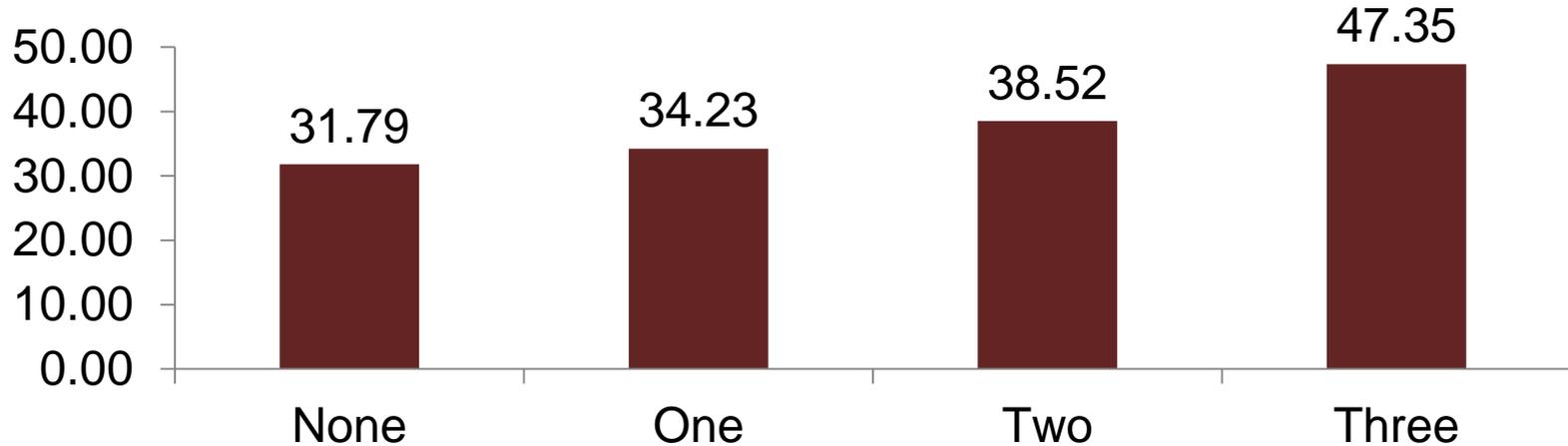
NSSE 2018 Results: HIP Participation Seniors

Learning Community, Undergraduate Research, Service Learning, Undergraduate Research, Internships, Study Abroad, Culminating Senior Exp.

Number of HIP Participated In

Category	Value
None	111
One	219
Two	250
Three	207
Four	153
Five	90
Six	20

NSSE 2018 Results HIPs – Collaborative Learning

**Means Collaborative Learning Scores
by Number of High Impact Practices
First Year**

None	One	Two	Three
31.79	34.23	38.52	47.35

Each EI is scored on a 60-point scale. To produce an indicator score, the response set for each item is converted to a 60-point scale (e.g., Never = 0; Sometimes = 20; Often = 40; Very often = 60), and the rescaled items are averaged. Thus a score of zero means a student responded at the bottom of the scale for every item in the EI, while a score of 60 indicates responses at the top of the scale on every item.

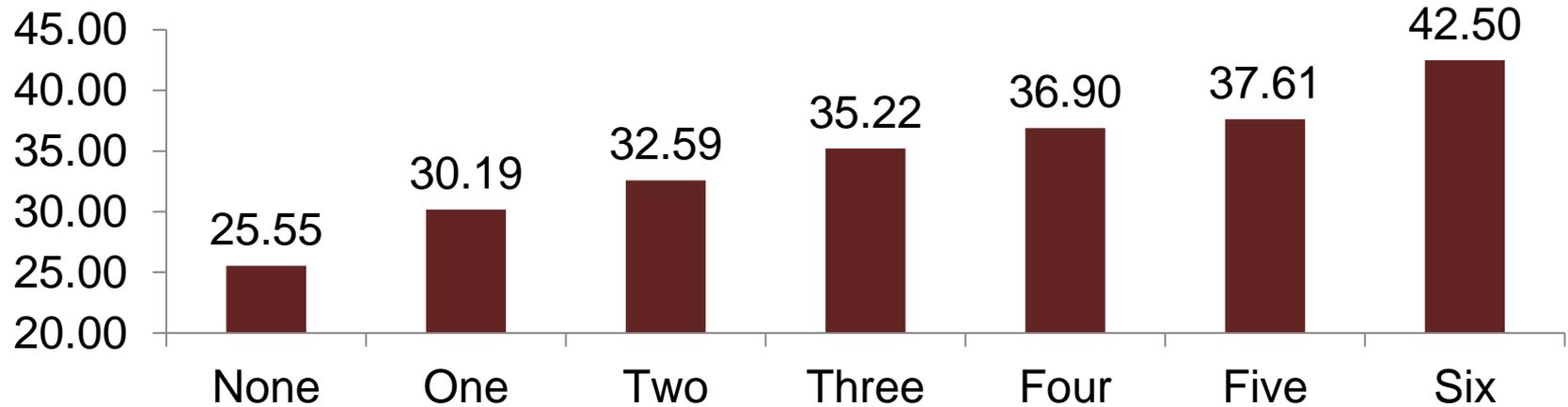# NSSE 2018 Results HIPs – Discussions with Diverse Others

Means Discussions with Diverse Others by Number of High Impact Practices First Year

None	One	Two	Three
37.76	41.44	44.21	50.59

Each EI is scored on a 60-point scale. To produce an indicator score, the response set for each item is converted to a 60-point scale (e.g., Never = 0; Sometimes = 20; Often = 40; Very often = 60), and the rescaled items are averaged. Thus a score of zero means a student responded at the bottom of the scale for every item in the EI, while a score of 60 indicates responses at the top of the scale on every item.

NSSE 2018 Results HIPs – Collaborative Learning

**Means Collaborative Learning Scores
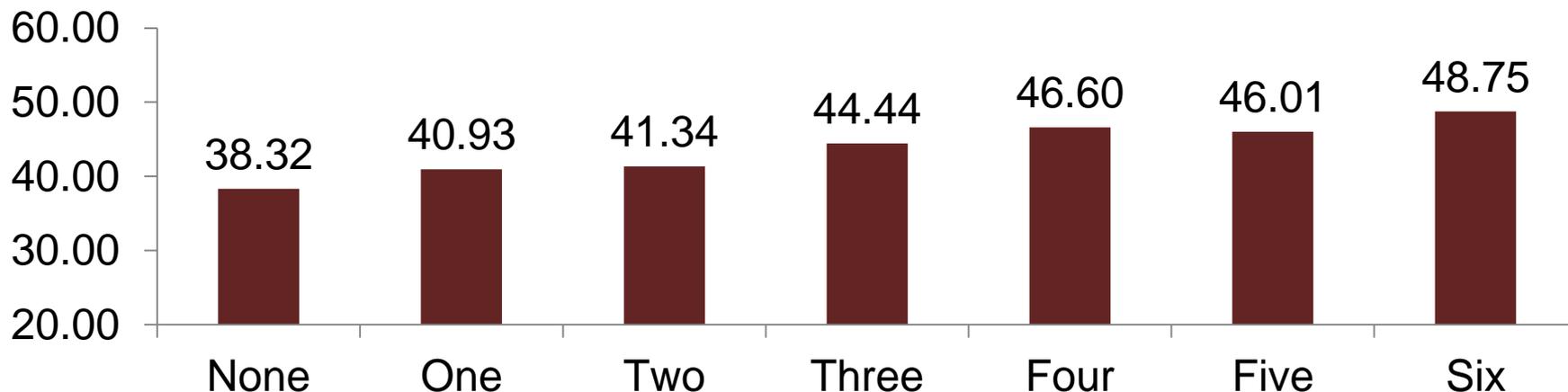by Number of High Impact Practices
Senior**

Each EI is scored on a 60-point scale. To produce an indicator score, the response set for each item is converted to a 60-point scale (e.g., Never = 0; Sometimes = 20; Often = 40; Very often = 60), and the rescaled items are averaged. Thus a score of zero means a student responded at the bottom of the scale for every item in the EI, while a score of 60 indicates responses at the top of the scale on every item.

NSSE 2018 Results HIPs – Discussions with Diverse Others

**Means Discussions with Diverse Others by Number of High Impact Practices
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Self Report - Limitations

Similar to criticisms of any self-report instrument

- Social desirability (Bowman & Hill, 2011)
- Understanding on items (Gonyea, 2005)
- Vague quantifiers (Porter, 2011)

Kolek, 2013

- Self-reports of participation in service learning did not match enrollment in service learning courses.

Program Data

Program Data

Multiple different methods of collecting participation

- Program directors
- Sign-in/card swipes
- Best record of participation

May not be readily available

- Need to collaborate

2017 TLC Impact on First Year GPA: ANCOVA Results

	N	Avg. Fall GPA	Adjusted Fall GPA*
TLC	936	2.76	**2.79**
Non-Participants	2374	2.74	**2.73**
Overall	3310	2.74	

Note 1: Only Full-Time FYS participants. Students who withdrew from a TLC were counted as non-participants. Excluding students who were missing data on one or more covariates.

Note 2. Differences were statistically significant based on Analysis of Covariance (ANCOVA) results (p <. 048).

Note 3: Partial Eta Squared indicated a very a small effect size.

* Covariates included in the model were High School GPA, SAT Score, Enrollment Date (proxy for student motivation and commitment), and Income Level (received a Pell Grant or Not dummy coded where 1 = Received Pell Grant and 0 = Did Not Receive a Pell Grant) and Gender.

TLC Participants' One-Year Retention Rates Compared to Nonparticipants
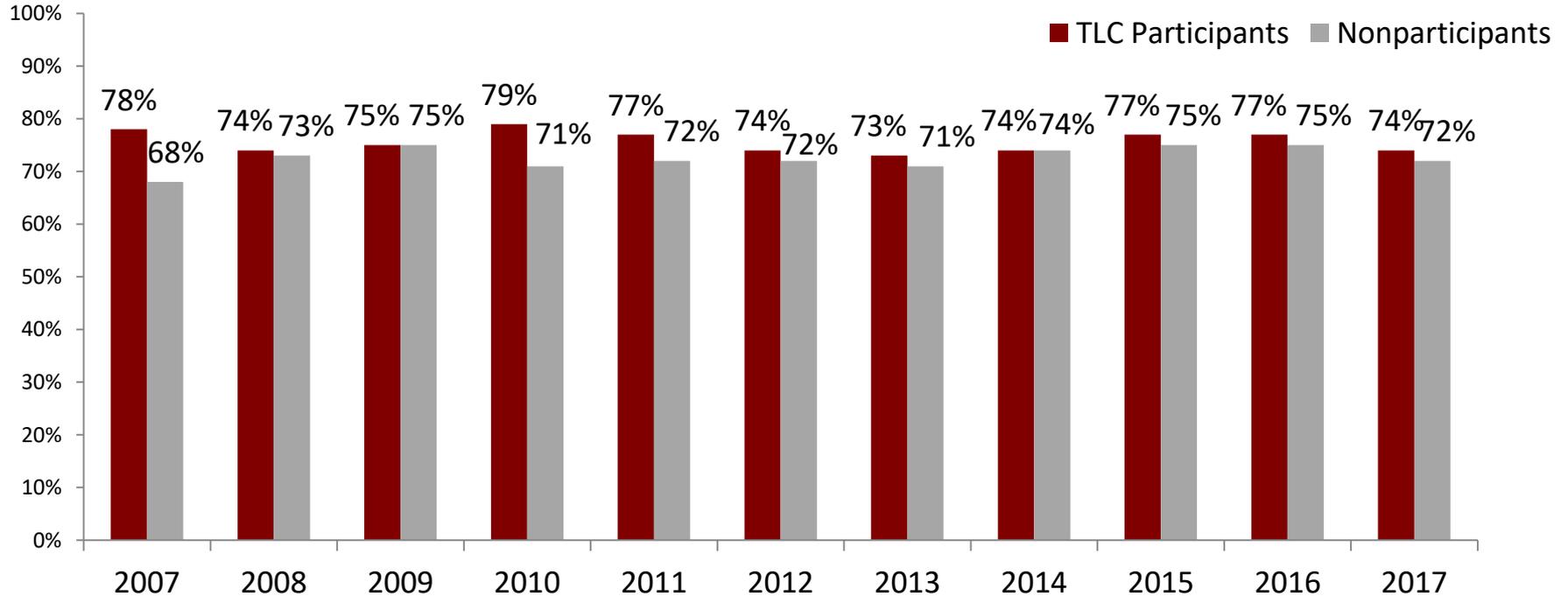
Note: One-year retention rates are significantly higher for TLC participants compared to nonparticipants even when taking academic preparation and demographics into account for the 2007, 2010, and 2011 cohorts (HS GPAs, SAT scores, gender, income level, and admit date). Based on logistic regression results.

Underserved Students Participation and Outcomes: Themed Learning Communities (Fall 2016)
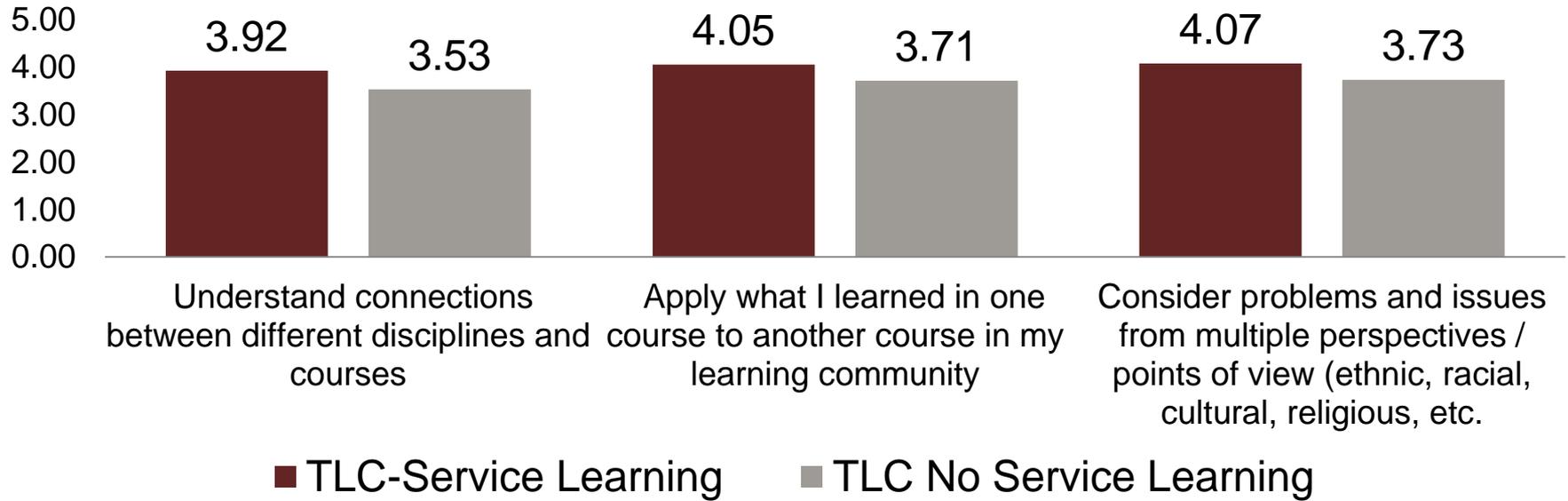
Student Characteristic	TLC Participants				Nonparticipants			
	N	One-Year Retention (any IU)	One-Year Retention (IUPUI IN)	FY GPA	N	One-Year Retention (any IU)	One-Year Retention (IUPUI IN)	FY GPA
African American	69	**84%**	75%	2.54	285	**71%**	67%	2.39
Latino(a)/Hispanic	80	75%	70%	2.54	232	70%	64%	2.51
Afr. American, Latino,(a) Two or More Races	192	**79%**	**73%**	2.56	660	**70%**	**65%**	2.46
First Generation	277	74%	70%	2.63	847	68%	64%	2.55
Received Federal Pell Grant (proxy for low income)	332	**75%**	**70%**	2.57	1,133	**68%**	**64%**	2.56
Twenty First Century Scholars State Aid	230	**76%**	**70%**	2.58	724	**67%**	**61%**	2.49

Bolded items significantly different based on independent samples t-test or chi-square results.

TLC-Service Learning: Integrative Learning

Mean Scores

Bar chart showing mean scores comparing TLC-Service Learning (dark red) and TLC No Service Learning (gray) across three categories:

- **Understand connections between different disciplines and courses**: TLC-Service Learning 3.92, TLC No Service Learning 3.53
- **Apply what I learned in one course to another course in my learning community**: TLC-Service Learning 4.05, TLC No Service Learning 3.71
- **Consider problems and issues from multiple perspectives / points of view (ethnic, racial, cultural, religious, etc.**: TLC-Service Learning 4.07, TLC No Service Learning 3.73

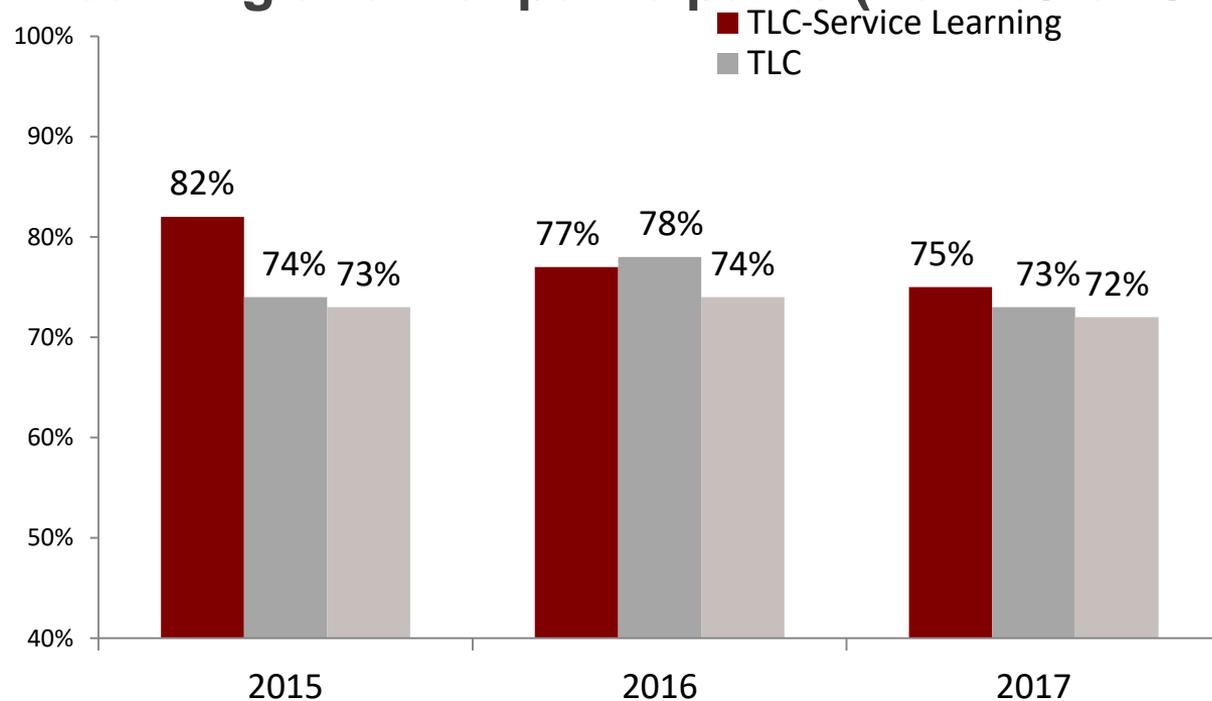■ TLC-Service Learning   ■ TLC No Service Learning

Note 1: All items significantly different based on independent samples t-test results. TLC-SL N=223, TLC No SL N=105

Note 2: Responses based on a 6 point Likert-Type scale where
0= Not at All, 1 = "Very Little", 2 = "Little", 3 = "Some", 4 = "Much", and 5 = "Very Much"

TLC-Service Learning Participants' One-Year Retention Rates Compared to TLC No Service Learning and Nonparticipants (no TLC or SL)

Note: One-year retention rates were significantly higher for TLC-Service Learning participants compared to TLC and nonparticipants even when taking academic preparation and demographics into account for the 2015 cohort and higher than nonparticipants for the 2016 cohort (HS GPAs, SAT scores, income level, and admit date). Based on logistic regression results.
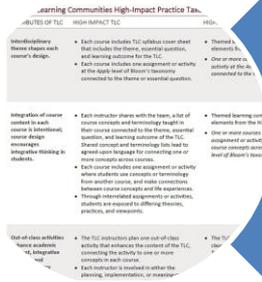
Method 4

HIP Taxonomies

IUPUI HIP Taxonomy project

1. Cal State University

2. AAC&U

3. IUPUI

   – Intended benefits

     • Quality course/Program development

     • Fidelity

     • Assessment

     • Faculty development resource

IUPUI Taxonomies Project

Nine taxonomies

http://rise.iupui.edu/taxonomies

Themed Learning Community (TLC) HIP Taxonomy

1. First-Year Seminar and 2 or more disciplinary courses linked by a theme/ "big idea".

2. Inside and outside the classroom experiences

3. Seeks to

   – Cultivate integrative learning

   – Encourage sense of belonging

   – Foster collaboration across discipline

4. IRDS assisted in development of TLC rubric

   Adapted from Powell & Graunke, 2019

2018 Instructor Survey

Question	N	Mean	Std. Dev.	Less than High Impact	High Impact TLC	Higher Impact TLC	Highest Impact TLC
Interdisciplinary theme shapes each course's design.							
Integration of course content in each course is intentional; course design encourages integrative thinking in students.							
Out of class activities enhance academic content, integrative thinking, and interdisciplinary theme.							
Active learning strategies are central to each course.							
Faculty collaboration fosters integrative approach, exploration of theme, out-of-class experiences, and student development							

* 1="Less than High Impact", 2="High Impact TLC", 3="Higher Impact TLC", 4="Highest Impact TLC". These items were displayed only to TLC faculty.

2018 Instructor Survey

Question	N	Mean	Std. Dev.	Less than High Impact	High Impact TLC	Higher Impact TLC	Highest Impact TLC
Interdisciplinary theme shapes each course's design.	91	2.93	0.92	3.3%	35.2%	26.4%	35.2%
Integration of course content in each course is intentional; course design encourages integrative thinking in students.	91	2.97	0.87	2.2%	33.0%	30.8%	34.1%
Out of class activities enhance academic content, integrative thinking, and interdisciplinary theme.	91	3.12	0.83	1.1%	25.3%	34.1%	39.6%
Active learning strategies are central to each course.	91	3.09	0.90	3.3%	26.4%	28.6%	41.8%
Faculty collaboration fosters integrative approach, exploration of theme, out-of-class experiences, and student development	91	2.96	0.98	6.6%	29.7%	25.3%	38.5%

* 1="Less than High Impact", 2="High Impact TLC", 3="Higher Impact TLC", 4="Highest Impact TLC". These items were displayed only to TLC faculty.
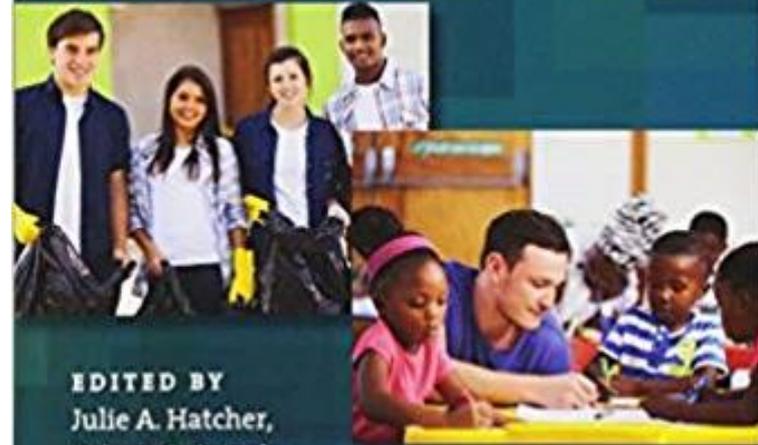
Service Learning Taxonomy

- Development

- Unique features/Challenges

- Implementation
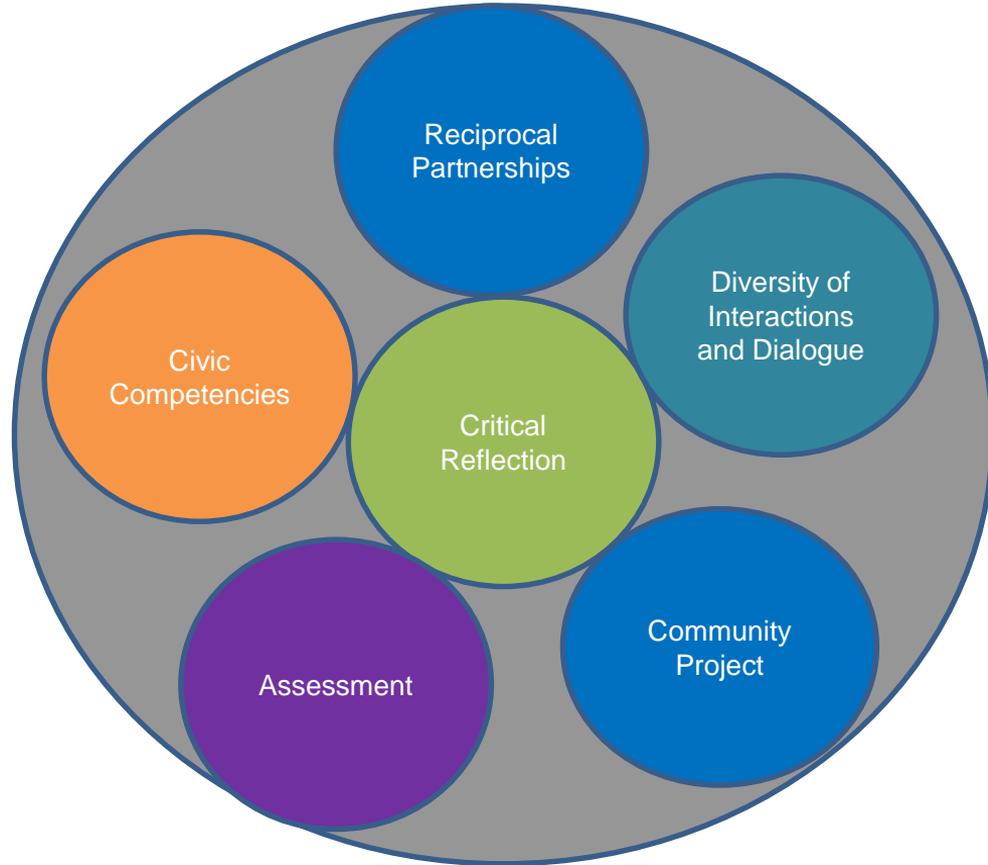
- FLC use and feedback

Research on Student Civic Outcomes in Service Learning
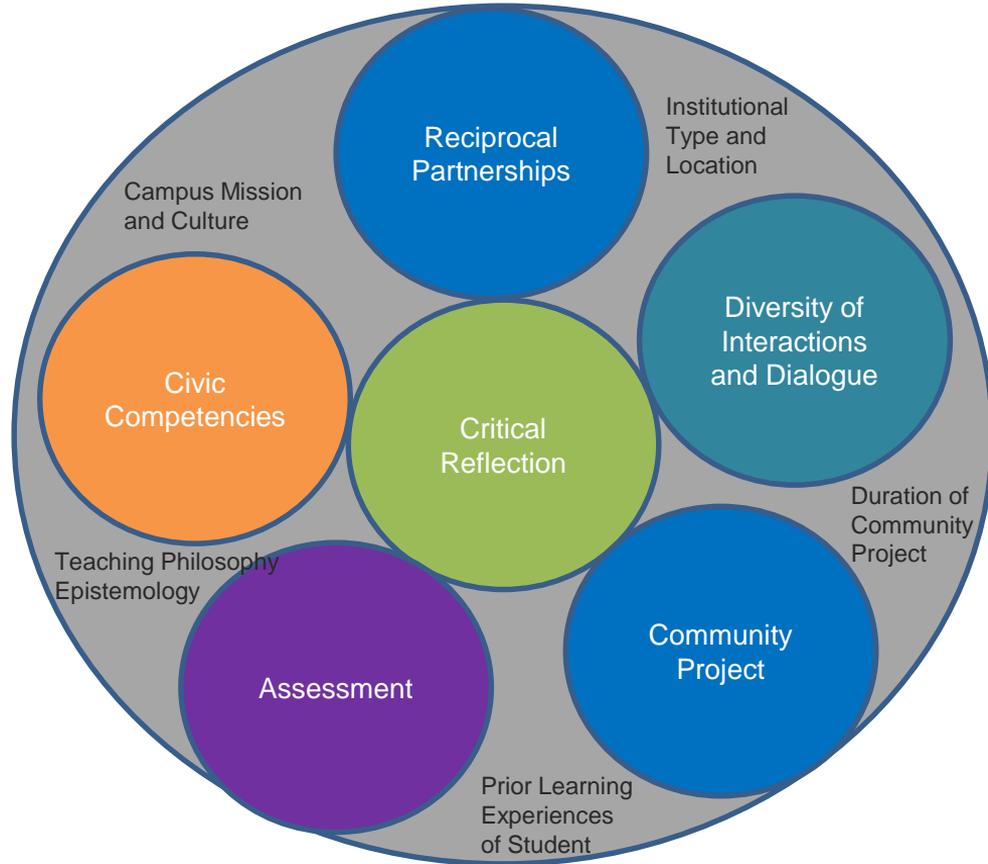
Conceptual Frameworks and Methods

EDITED BY
Julie A. Hatcher,
Robert G. Bringle,
and Thomas W. Hahn

Service Learning Course Attributes

Service Learning Course Attributes

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Method 5

"The Record"

"The Record" Background

- Higher education is recognizing that student learning occurs in numerous places and ways.

- How might we reflect these experiences so students are better able to demonstrate and articulate their overall learning?

- IUPUI/AACRAO/NASPA/Lumina as part of Comprehensive Student Records (CSR) Project

- Developed a framework for the development of a new IU Record to reflect experiential and applied learning

  - Assessment

  - Registrar verification

Progress

Established seven broad experience categories:

      Diversity

      Service

      Global Engagement

      Internships/Career Development

      Leadership

      Research

      Creative Expression

Application is available on the Academic Affairs website https://academicaffairs.iupui.edu/Strategic-Initiatives/EALR/

Each experience reflects one or more of the new Profiles (IUPUI+)

Approved Experiences	Category
1. Multicultural Leadership Empowerment Program	Diversity
2. Multidisciplinary Undergraduate Research Institute	Research
3. RISE to the IUPUI Challenge Scholarship Program	Research
4. Diversity Scholars Intensive Research Experience	Research
5. Undergraduate Research Opportunity Program	Research
6. Alternative Break Trip Leader	Service
7. Alternative Break Trip Co-Coordinator	Service
8. Paws Pantry Scholars	Service
9. Bonner Leaders Program	Service
10. Community Service Leaders	Service
11. Community Service Scholars	Service
12. Family School and Neighborhood Scholars	Service
13. Fugate Scholars	Service
14. Paws Pantry Scholars	Service
15. Service Corp Scholars	Service
16. Service Learning Assistant Scholars	Service
17. Internships	Internships/Career Dev.
18. International Immersion Experience	Global Engagement
19. Discipline-Based Educational Research Scholars Program	Research
20. Life Health Sciences Internship Program	Internships/Career Dev.
21. Student Area Managers	Internships/Career Dev.

Approved Experiences	Category
22. International House	Global Engagement
23. International Immersion Experience	Global Engagement
24. International Peer Mentoring Program	Global Engagement
25. Campus Center & Student Experiences Team Member	Internships/Career Dev.
26. Duke Energy STEM Internship Program	Internships/Career Dev.
27. Kelly Corporate Experience	Internships/Career Dev.
28. Life-Health Sciences Internship Program	Internships/Career Dev.
29. Resident Assistant	Internships/Career Dev. Leadership
30. Sophomore Internship Program	Internships/Career Dev.
31. Laboratory Assistantship in Earth Sciences	Research
32. NURSE B 235 Promoting Health Populations Practicum	Service
33. STEM+Art experiential learning through the design of complex origami structures	Creative Expression
34. Service Beyond the Service First Year Seminar	Service
35. Ethnic Identity in Indianapolis Fieldwork Experience	Diversity

Current Student Experiences*

- There are **35** experiences approved for the Record.

- There are **503 unique students** who have experiences in SIS

- **52** of those students have achieved two or more experiences

- For a total of **561 student experiences** (this does not include multiple semesters of the same award)

- The absolute total number of approved student experiences to date on the Record, allowing for multiple semesters of the same experience for a student is **925**

*As of 3/15/2019

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Information Requested for Notation on Student Experience and Achievement Record

1. **QUALIFIED EXPERIENCE WITH INTEGRATION OF KNOWLEDGE**

   – *Explain how the experience represents a true integration of knowledge*

2. **REFLECTION**

   – *Description of the kinds and levels of student reflection that occurs as part of the process as well as the evaluation of reflections.*

3. **ASSESSMENT**

   – *Description of the assessment plan for determining that, based on the experiences, the student learning outcomes were achieved.*

4. **WORKFLOW SUMMARY**

   – *Details which of the Profiles (i.e., IUPUI+) are the focus of the experiences and which individuals will be reviewing and approving at each level.*

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Experiential and Applied Learning Record

IUPUI validates all achievements presented on this record. Each achievement reflected is based on established assessment rubrics to validate the learning. This record is an official Indiana University document certified by the Office of the Registrar when the University seal and Registrar signature are present. (Note: achievements reflected by semester may have occurred during only a portion of the semester.)

Student Information

Name: Bridget Elizabeth Barbara

Student ID: 0003006365

SUMMARY OF IUPUI ACHIEVEMENTS

DIVERSITY	GLOBAL ENGAGEMENT	INTERNSHIPS CAREER DEVELOPMENT	RESEARCH	SERVICE
2 semesters	**1** semester	**244** hours	**175** hours	**508** hours

ACHIEVEMENT TIMELINE

2014 AND BEFORE

2013
- Multicultural Leadership Empowerment Program

2014
- International Immersion Experience
  - Trinidad & Tobago: Alternative Spring Break
- Multicultural Leadership Empowerment Program

2015

FALL
- Duke Energy STEM Internship Program
  - Electrical Engineering Intern

2016

SPRING
- Duke Energy STEM Internship Program
  - Electrical Engineering Intern

FALL
- Sam H. Jones Community Service Scholar
  - Alternative Break Co-Coordinator
- Undergraduate Research Opportunity Program

2017

SPRING
- Sam H. Jones Community Service Scholar
  - Alternative Break Co-Coordinator
- Undergraduate Research Opportunity Program

LEARNING OUTCOMES

NUMBER DENOTES THE COUNT OF EXPERIENCES WITH EACH LEARNING OUTCOME BY SEMESTER

Communicator **6**	Community Contributor **4**
Innovator **2**	Problem Solver **8**

IUPUI

Name   Bridget Elizabeth Barbara
Student ID   0003006365

DIVERSITY

Multicultural Leadership Empowerment Program
IUPUI, Indianapolis, Indiana - 2 Semesters

GLOBAL ENGAGEMENT

International Immersion Experience
Trinidad & Tobago: Alternative Spring Break
IUPUI, Indianapolis, Indiana - 1 Semester

INTERNSHIPS
CAREER DEVELOPMENT

Duke Energy STEM Internship Program
Electrical Engineering Intern
Comlux America, Indianapolis, Indiana - 244 Hours

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Experiential and Applied Learning Record

Name **Bridget Elizabeth Barbara**
Student ID **0003006365**

RESEARCH

Undergraduate Research Opportunity Program
IUPUI, Indianapolis, Indiana - 175 Hours

SERVICE

Sam H. Jones Community Service Scholar
Alternative Break Co-Coordinator
IUPUI, Indianapolis, Indiana - 508 Hours

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Questions?