

## **Initial Report on Project Findings Submitted to Lumina Foundation**

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### **Assessing Quality and Equity in High-Impact Practices: Comprehensive Report**

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The term “High-Impact Practice” is a popular label associated with a set of educational practices, including curricular and co-curricular experiences that encompass both “traditional” classroom-based learning as well as more experiential and innovative environments. High-Impact Practices (HIPs) include such things as internships, study abroad, culminating experiences and undergraduate research. Many of these practices have a long history and an evidence-based track record in undergraduate education. Evidence demonstrating positive association of HIPs with deep, integrated learning and practical educational gains, student engagement overall, and for the salutary educational benefits to historically underrepresented students (Finley, 2019; Finley & McNair, 2013; Kuh, 2008; Kuh & O’Donnell, 2013) has propelled their popularity and motivated many colleges and universities to make them more widespread, or even require participation. However, as Kuh and Kinzie (2018) point out, while HIPs represent sound educational practices, implementation matters more than the label attached to these experiences.

Interest in studying the influence of HIPs and confirming their educational benefit is high. Processes for tracking participation, disaggregating by race-ethnicity, and developing HIP standards and taxonomies have expanded (e.g. McMahan, 2015). Awareness about the value of HIPs, attention to equity, and assessing HIP participation have proliferated through efforts in state systems and by member- and consortium-based organizations, for example HIPs in the States, the National Association of System Heads’ (NASH) Taking Student Success to Scale (TS<sup>3</sup>), the Association of American Colleges & Universities’ (AAC&U) Committing to Equity and Inclusive Excellence, and most recently, Finley’s (2019) paper, *A Comprehensive Approach*

*to Assessment of High-Impact Practices*. Yet concerns about assuring HIP quality and equity have been raised in all these projects and initiatives.

Rhetoric about HIPs is overwhelmingly positive and encouraging. Institutions implementing HIPs are inspired by evidence of their transformational benefits and outcomes (e.g. Hansen & Schmidt, 2017; Soria & Johnson, 2017). Educators also favor the HIP label because it centers sometimes peripheral or boutique educational experiences. Faculty members who have been teaching undergraduate research as independent studies or those striving to create meaningful service-learning experiences or leading study abroad experiences no doubt want to ensure that these experiences are optimally designed. However, little is known about the quality of HIP implementation. Do all HIPs deliver on the elements of quality? Is the rush to make HIPs more widespread resulting in uneven quality? How might a focus on quality and equity enhance the HIP experience for all students?

Evidence of quality implementation, specifically information about the eight elements that typify HIPs (Kuh & O'Donnell, 2013) – high expectations for performance, significant investment of time and effort, substantive interaction with faculty and peers, experiences with diversity and in unfamiliar situations, frequent feedback, opportunities for reflection and integration of learning, real-world application, and public demonstrations of competence – is scant. There is also strong interest in exploring the quality of each HIP in depth to discover more about the features that contribute to student learning and success. Even more important given current concerns about racial equity, is examining the HIP experience of historically underrepresented students. Assuring access, student satisfaction, and educational benefit, in high-quality HIPs is a key equity goal (Springer et al., 2018). Most of all, institutional and collective initiatives to elevate and expand HIPs need straightforward measures to assess HIPs, in order to study their effectiveness, and inform implementation and equity efforts.

The Assessing Quality and Equity in High-Impact Practices project (AKA the “HIP Quality Project”), supported by Lumina Foundation, and undertaken by scholars at Indiana University’s Center for Postsecondary Research (see Appendix A), seeks to facilitate and enhance the assessment of HIPs for quality and equity at bachelor’s degree-granting colleges and universities. The project explores the extent to which students participating in HIPs are exposed to the elements of HIP quality set forth in the literature. By assessing the extent to which HIPs

manifest these elements and then who has access to high-quality HIPs, the project examines critical equity questions. The project aims to help institutions assess and enhance the quality of their HIP offerings and for the research findings to strengthen the HIPs evidence base and reveal insights for addressing racial equity.

### **Overview of Research Design and Questions**

The HIP Quality Project aims to deepen efforts by the National Survey of Student Engagement (NSSE) to assess students' experience in HIPs and to conduct fundamental research about the quality of and equity of these popular educational practices. The project involves the development, testing, administration, and analysis of a student survey and complementary review of relevant research. The first step was the development of survey questions that go beyond mere participation in a HIP to inquire more deeply about students' experiences, organized around the eight elements (Kuh & O'Donnell, 2013) and overall satisfaction with the HIP experience. Next, cognitive interviews and focus groups were conducted to test the item set, and two approaches to survey administration, one appended to NSSE and the other a free-standing Qualtrics administration, were developed. The administration protocol involved the selection of a representative sample of institutional types, with an emphasis on minority-serving institutions to assure greater representation of diverse student populations, as well as specific invitations to public universities participating in the NASH TS<sup>3</sup> initiatives that were focused on exploring HIPs. Following successful data collection and analyses of data quality, we investigated the following questions:

1. What proportions of students report access to exposure to the items that comprise the eight elements of HIP quality, and how do students rate the quality of their experience overall and by race-ethnicity?
2. What does the HIP literature suggest regarding the emphasis on the eight elements within each HIP? In other words, are certain elements emphasized more for some HIPs than others?
3. After stipulating quality criteria related to the eight elements based on survey responses, what proportion of participants experience sufficient levels of each element by HIP and by racial-ethnic identity?

4. Summing across the elements, what proportion of participants experience high-quality HIPs? How do levels of quality vary by HIP and by students' racial-ethnic identity?
5. How satisfied are participants with their HIP experience, and how does satisfaction relate to an overall measure of HIP quality? Does this relationship vary by racial-ethnic identity?

### **Developing, Testing, and Administering a HIP Quality Instrument**

Building on the success of NSSE's Topical Modules—short question sets on topics of special interest such as academic advising and civic engagement that an institution can append to the core NSSE survey—we developed, tested, and administered a HIP Quality item set. This set asks students about their exposure to the eight elements of high-quality HIPs (see Appendix B). Several questions were developed to probe each of the eight elements (see Appendix C). Many items were adapted and informed by existing NSSE questions and related experimental item sets that have been added to NSSE over the years to investigate specific HIP experiences. The HIP Quality set was tested using a pilot survey administration at two institutions and cognitive interviews and a focus group with a convenience sample of students at one institution to determine whether students understood the questions and response frames in consistent ways and as we intended (Collins, 2003). Results from the pilot, in particular a closing question that invited the student to comment on any difficulty answering questions, and the cognitive interviews and focus groups, largely demonstrated that students interpreted and responded to the survey items in the intended ways. Items identified as confusing or ambiguous were revised based on student feedback.

The HIP Quality questions were programmed to be administered as an experimental item set appended to the spring 2019 NSSE administration at a diverse group of 40 institutions and as a free-standing survey delivered on the Qualtrics survey platform. The Qualtrics version was added to increase the number of participating institutions and students. It was promoted among NASH TS<sup>3</sup> project institutions and offered at no charge to institutions. Seventeen institutions administered the Qualtrics survey in spring 2019. The Qualtrics version invited students to report their participation in the same six HIPs identified on NSSE, plus first-year seminars (not asked on NSSE). It also included additional items mirroring NSSE's demographic and enrollment

questions to facilitate disaggregation as well as open-ended questions inviting students to comment on the most and least satisfying aspects of their HIP experience. We encouraged NASH TS<sup>3</sup> institutions to promote the survey among student affairs contacts, chief diversity officers, and other faculty and staff to encourage participation among students of color.

Incentives (if any) varied among NSSE-administering institutions as part of their normal administration. To encourage participation in the Qualtrics version, survey completers were entered into random drawings for \$150 Amazon gift cards (two to ten per institution, depending on the sample size). The largest Qualtrics-administering institution funded eight additional gift cards. Two institutions participating in the Qualtrics survey elected not to provide student contact information and instead were given institution-specific links. The resulting 132 respondents were ineligible for the drawings and excluded from this analysis.

The two versions asked identical questions of HIP participants, but the sample selection differed. Whereas NSSE is administered to first-year students and seniors, institutions participating in the Qualtrics administration had discretion to include students from all undergraduate class years. The NASH TS<sup>3</sup> participating institutions targeted their samples to students in institution-selected HIPs. On the NSSE administration, students were invited to select the HIP for follow-up questions. If students had experienced the selected HIP more than once, they were directed to answer in reference to the most recent experience.

The NSSE and Qualtrics administration schedules and survey invitations were approximate. The NSSE administration provided institution customized schedules for email delivery of a survey invitation and up to four reminders. Qualtrics-administering institutions were asked to select one of eight administration schedules between March 11 and May 27. Qualtrics administrations included an invitation email and four reminders six days apart, beginning three days after the invitation. NSSE invitations began in March and remained open until May 15, 2019 and the Qualtrics survey was open until June 3, 2019.

The two-platform survey administration protocol was helpful because it allowed for easy delivery to institutions as part of a planned NSSE administration. It also provided the opportunity to test an independent survey option via Qualtrics, with the added benefit of increasing the number of participating institutions and students. The two platforms worked well for data collection purposes. However, the free-standing survey demanded more effort from institutional

contacts—obtaining institutional participation agreements, identifying relevant populations, and preparing files with student contact information. One of the lessons learned in this project was that despite institutions’ enthusiasm for assessing HIP quality, survey administration was not always easy. Participation in the NSSE 2019 administration was challenging given institutions’ established participation cycles (many institutions rotate NSSE with other assessment projects to minimize burden) and other commitments (e.g. other NSSE modules) that precluded the addition of additional questions. It was equally challenging for institutions to take advantage of the Qualtrics option given the complexities described above. Many interested institutions had planned other assessment activities and could not justify fitting in one more survey, or were challenged to assemble the necessary materials. In response to interested institutions that needed more time to secure permissions and plan, we offered an additional fall 2019 Qualtrics administration. Understanding the complexities of securing institutional participation is helpful information for future assessment offerings. Overall, our test of both administration modes suggests a strong potential for viable assessment approaches.

Descriptive analysis from the spring 2019 NSSE and Qualtrics administrations focused on data quality and shows evidence that the questions are discriminating and valid. A survey must discriminate well between students of varying situations and experiences on the constructs that it purports to measure. This means that missing data are minimized, the items have good variance, and scores are distributed in a normal range. In addition, respondents should understand and respond to the items in accordance with their intended meanings. All are true of the HIP Quality items.

The NSSE data included 13,353 respondents who completed the core survey before continuing to the HIP-Quality items. Of these, 83% completed questions through the final item. Item-missing percentages were in an adequate range from 7% to 17% as respondents progressed through the questions, with the exception of skip-logic items that were only asked of a subset of respondents (e.g., those who “never” met with a faculty member were not asked a follow-up question about these meetings). In the Qualtrics administration, 81% of 11,670 respondents completed through the final item, and item-missing percentages increased from 1% to 19% as respondents progressed through the questionnaire. The combined administrations yielded 25,023 respondents.

Variance is an indicator of the spread or dispersion of scores on a measure in a set of data. Theoretically, about 95% of all scores in a normal distribution fall between plus or minus two standard deviations from the mean. A review of standard deviations for the items within the HIP Quality set indicate that actual scores were well distributed among the full possible range of scores. For example, the item “Compared to your typical learning experiences at this institution, about how much time did this experience require?” offered five response options, from 1=Much less time to 5=Much more time. The overall mean was 3.3 and the standard deviation for this item was 1.1, meaning that respondents were well distributed among all response options. All items showed adequate variance in this way. Indeed, a scan of frequency distributions shows that all response options were used by an adequate number of respondents. Normality statistics also showed an adequate normal distribution of responses. With few exceptions, skewness and kurtosis values were within the acceptable range of -1 to +1.

Finally we tested for valid responses by examining response patterns with known groups. In general, students responded in ways that were highly consistent with the circumstances of the high-impact practice they were considering. Consider the following examples:

- A higher proportion of students in internships said they “very often” received feedback from a supervisor, while those in undergraduate research were far more likely to get frequent feedback from a faculty member. Students in learning communities identified other students as a more likely source of frequent feedback.
- Students in internships were much more likely than those in other HIPs to identify the benefits of the experience as acquiring work-related skills and solving complex, real-world problems, and were also more likely perceive the experience as helping them “prepare for plans after graduation.”
- The study abroad experience was far more associated with having “interactions with people who differed from you in significant ways” and with “settings or circumstances new or unfamiliar.” They were also much more likely than other HIPs to “write an informal piece about the experience.”

The items were similarly consistent with students’ class levels and programs of study, providing further evidence that students understood and responded thoughtfully to the questions.

## Data and Methods

The two spring 2019 data collection activities resulted in a dataset of 25,155 respondents from 58 institutions. We selected 20,721 respondents whose HIP was either finished (13,507) or ongoing for at least four weeks to ensure sufficient exposure to answer the questions (7,214). As noted above, we excluded the 132 students at the two institutions that elected to administer the survey anonymously. The remainder of this report is limited to this group. The distribution of respondents across the seven HIPs is displayed in Table 1. The majority of students provided information about a service-learning course or an internship or field experience. Only the Qualtrics version included the option to report on a first-year seminar.

Table 1. Distribution of participants in the analysis by HIP

<i>HIP</i>	<i>High-Impact Practice</i>	<i>Count</i>	<i>%</i>
<i>First-year seminar</i>	A first-year course focused on specific academic topic or major that teaches new students college success skills	1,265	6
<i>Service-learning</i>	A service-based learning experience (a course that included a community-based project)	5,994	29
<i>Learning community</i>	A learning community (formal program where groups of students take two or more classes together)	1,705	8
<i>Undergraduate research</i>	A research project with a faculty member	1,724	8
<i>Internship or field experience</i>	An internship, co-op, field experience, students teaching, or clinical placement	5,769	28
<i>Study abroad</i>	A study abroad program	1,728	8
<i>Culminating senior experience</i>	A culminating senior experience (capstone course, senior project or thesis, comprehensive exam, portfolio, etc.)	2,536	12
<i>Total</i>		20,721	100

The dataset includes significant representation of racially minoritized student populations. Tables 2.1 and 2.2 show the counts and row (within-HIP) percentages of student race/ethnicity and first-generation status by student-selected HIP, respectively. Lumina Foundation’s commitment to advancing racial equity and particular interest in assuring equitable access to high-quality learning opportunities for Black, Hispanic, and Native American students, led us to define racially-minoritized students as Black or African American, Hispanic or Latino, American Indian or Alaska Native, and multiracial students who identified with at least one of these groups. Within each HIP, White students make up the majority (54-77%) of respondents, and Hispanic or Latino students constituting the second-largest group (between 10 and 27% of



respondents). Altogether, some 6,185 students of these racial/ethnic groups were represented in the sample, or nearly 30% of the overall sample. Although our current analysis focuses on racially minoritized students, the student characteristic of first-generation status is also salient for HIP quality and equity. Given the large share of first-generation students in our sample, we retained three categories for first-generation status to distinguish the proportion of students who report that the highest level of education for either parent is less than a bachelor’s degree, but includes some college (first-generation, some college) compared to those reporting the highest level of education for either parent is a high school diploma or less (first-generation, no college).

Table 2.1 Distribution of participants in the analysis according to race-ethnicity, by HIP

<i>High-Impact Practice</i>	<i>American Indian or Alaska Native</i>		<i>Black or African American</i>		<i>Hispanic or Latino</i>		<i>Multiracial</i>		<i>White</i>	
	<i>Count</i>	<i>%</i>	<i>Count</i>	<i>%</i>	<i>Count</i>	<i>%</i>	<i>Count</i>	<i>%</i>	<i>Count</i>	<i>%</i>
<i>First-year seminar</i>	3	0.3	103	12	240	27	53	6	481	55
<i>Service-learning</i>	23	0.5	727	15	1,042	22	402	8	2,563	54
<i>Learning community</i>	4	0.3	167	12	281	20	129	9	807	58
<i>Undergraduate research</i>	2	0.1	128	9	176	13	105	8	949	70
<i>Internship or field experience</i>	24	0.5	490	10	776	16	319	7	3,273	67
<i>Study abroad</i>	4	0.3	91	6	149	10	88	6	1,101	77
<i>Culminating senior experience</i>	6	0.3	230	11	366	17	177	8	1,347	63
<i>Total</i>	66	0.4	1,936	12	3,030	18	1,273	8	10,521	63

Table 2.2 Distribution of participants in the analysis according to first-generation status, by HIP

<i>High-Impact Practice</i>	<i>First-generation (no college)</i>		<i>First-generation (some college)</i>		<i>Not first-generation</i>	
	<i>Count</i>	<i>%</i>	<i>Count</i>	<i>%</i>	<i>Count</i>	<i>%</i>
<i>First-year seminar</i>	336	34	288	29	361	37
<i>Service-learning</i>	1,841	33	1,274	23	2,450	44
<i>Learning community</i>	419	26	336	21	831	52
<i>Undergraduate research</i>	363	21	312	18	1,018	60
<i>Internship or field experience</i>	1,439	25	1,129	20	2,994	54
<i>Study abroad</i>	269	16	214	13	1,153	70
<i>Culminating senior experience</i>	693	28	575	24	1,177	48
<i>Total</i>	5,360	27	4,128	21	9,984	51

While NSSE targets first-year students and seniors, institutions in the Qualtrics sample were permitted to survey all class years. Table 3 describes respondent class level by HIP (counts and row percentages). Seniors made up the majority of the sample (64%), followed by first-years (19%), juniors (10%), and sophomores (7%). The largest group of students responding about a

learning community were first-years, comparable shares of first-years and seniors reported on a service-learning experience, and the large majority of those describing undergraduate research, internships and field placements, study abroad, and (as expected) culminating senior experiences were seniors.

Table 3. Distribution of participants in the analysis according to class level, by HIP.

<i>High-Impact Practice</i>	<i>Freshman (1st year)</i>		<i>Sophomore (2nd year)</i>		<i>Junior (3rd year)</i>		<i>Senior (4th year)</i>	
	<i>Count</i>	<i>%</i>	<i>Count</i>	<i>%</i>	<i>Count</i>	<i>%</i>	<i>Count</i>	<i>%</i>
<i>First-year seminar</i>	172	15	352	31	340	30	285	25
<i>Service-learning</i>	2,323	41	524	9	515	9	2,319	41
<i>Learning community</i>	749	45	197	12	205	12	509	31
<i>Undergraduate research</i>	170	10	93	6	148	9	1,250	75
<i>Internship or field experience</i>	201	4	170	3	436	8	4,723	85
<i>Study abroad</i>	61	4	50	3	230	13	1,366	80
<i>Culminating senior experience</i>	24	1	16	1	108	4	2,322	94
<i>Total</i>	3,700	19	1,402	7	1,982	10	12,774	64

The questionnaire was structured in order of the eight HIP quality elements (Appendix B). From the 33 items probing aspects of the eight HIP quality elements (see Appendix C) we created nine quality measures (structured opportunities to reflect and integrate was separated into two measures). Appendix E describes the construction of the nine quality measures. Lastly, we summed these nine quality measures into an overall quality score to help simplify analysis. During the development of this overall measure of quality, we contemplated creating seven unique measures, one for each HIP that would draw upon only those qualities the literature strongly emphasized; we found these HIP-specific measures of overall quality to be strongly correlated to the overall (uniform) measure of quality. For the sake of analytic and explanatory simplicity, and consistency, we opted to use the single measure of overall quality.

### Findings

The HIP Quality project set out to explore the feasibility of designing and administering a survey tool to get beyond the checklist assessment of HIPs, and to use data collected to examine manifestations of the elements of HIP quality, students' exposure to high-quality HIPs, and evidence of equity in access to quality for racially minoritized students. In this section, we discuss project findings, with a focus on the fundamental criteria of quality and equity.

## **HIP Quality Assessment Feasibility**

The creation of a short survey to assess elements of quality across all HIPs is a tangible outcome of this project. The HIP Quality survey is a sound instrument that students from a range of institutional types easily completed to assess their HIP experience. As indicated above, the results of focus groups, cognitive interviews, and data quality analysis were satisfactory. Although the survey has a high degree of face validity, it would benefit from further development, such as more sophisticated specification of quality of student effort. Additional administrations and data quality testing would help affirm its psychometric properties. Importantly, additional cognitive testing and focus groups with racially minoritized students would provide needed assurances that all students were interpreting questions as intended and that questions reflected their experiences.

One of the important outcomes of the creation of a survey that goes deeper than HIP participation is that the questions serve as an important reminder of the need to assure HIPs address the elements of quality—what makes them high-impact. In addition, survey questions afford proponents of particular HIPs an opportunity to explore the extent to which they deliver on the eight elements of quality. For example, evidence that only a small share of students in first year seminars or service-learning report high-quality experiences engaging with diversity might demonstrate a need or help make the case to enhance diversity elements in these experiences. Information about the patterns of students' exposure to HIP quality elements within each HIP could be useful to educators interested in improving HIP implementation to ensure maximum impact.

## **Evidence of Elements of HIP Quality**

Belief in the impact of HIPs on transformational outcomes is overwhelmingly positive. Institutions and the faculty and staff leading HIPs undoubtedly strive to ensure optimal design. Students are also invested in the quality of their experience. Yet, little is known about the extent to which HIPs deliver on the stated elements of quality, and if quality is even across all HIPs and equitable for all students. In this section, we share results about students overall exposure to HIP qualities within each HIP and discuss students' satisfaction with their experience.

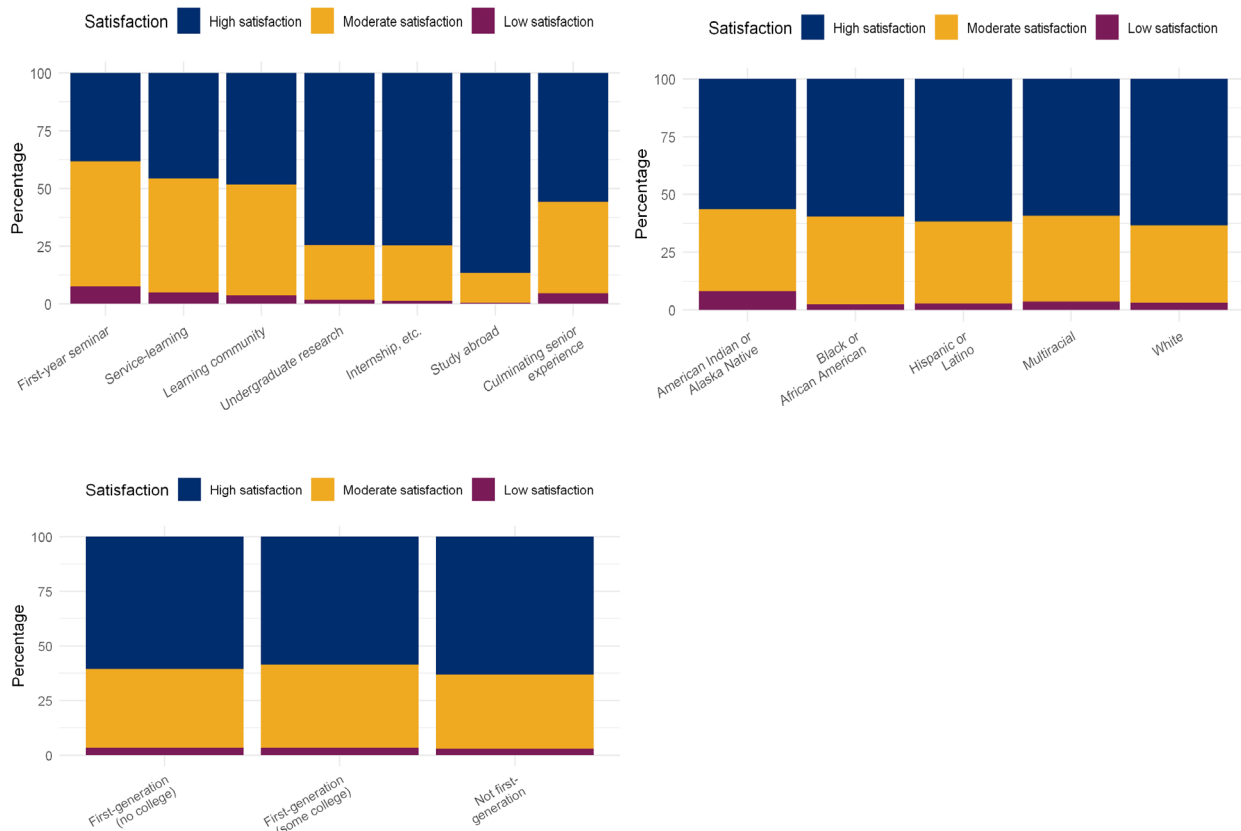
Students' reports of their exposure to the elements of quality within their HIP provides fundamental information about the extent to which HIPs are delivering the stated elements. Appendix D displays descriptive statistics for all survey items (27 items associated with the elements). Results show the proportion of students responding more frequently ("very often" or "often") or more substantially ("very much" or "quite a bit") within each HIP. These results can be useful to administrators, faculty and staff interested in exploring basic exposure to the practices associated with eight quality elements within specific HIPs. Results would also be helpful to proponents of specific HIPs to more deeply explore the dimensions and discuss how to design instructional practice to ensure exposure. For example, service-learning instructors interested in exploring interaction with and roles for faculty might be interested in results showing that the proportion of students who met frequently ("very often" or "often") with faculty or staff from their institution was about 37%, compared to significantly higher rates in research with faculty (76%) and culminating experiences (52%) and that only 52% of students frequently received feedback from faculty about their experience. Such results could be used to inform discussions about expectations for faculty interaction and from who students need feedback about their performance.

These simple summaries of all our measures of HIP quality demonstrate that students in all seven HIPs have some level of exposure to the elements of quality (see Appendix D). However, some frequencies are as low as 24% "very often" or "often" (students writing an informal piece about undergraduate research), while items are more reliably experienced in HIPs. Statistics for all the items by HIP provide a general assessment of students' experiences to inform discussions about HIP quality and a baseline for benchmarking more nuanced enhancements to elements of quality.

Students' satisfaction with their HIP experience affords insight into their subjective assessment of quality. Students were invited to rate the quality of their HIP experience on a 7-point scale, from poor (1) to excellent (7). Figure 1 combines these results into low (1 or 2), medium (3, 4, or 5), and high satisfaction (6 or 7). A large share of students were highly satisfied with their HIP experience, with about 40-80% reporting high satisfaction. Those who participated in undergraduate research, internships and field placements, and study abroad were most likely to report high satisfaction (74, 75, and 87%, respectively), while first-year seminars,

service-learning and learning communities, had fewer highly satisfied students (38, 45, and 48%, respectively). An examination of satisfaction levels by racial-ethnic identity reveals relatively consistent levels of satisfaction across groups, with high satisfaction ranging from about 56% among American Indian or Alaska Native students to 63% among White students (second panel of Figure 1). In addition, an examination of satisfaction levels by first-generation status reveals relatively consistent levels of satisfaction across the three groups, with high satisfaction about 60% (third panel of Figure 1).

Figure 1. Overall satisfaction with HIP experience by HIP, race/ethnicity, and first-generation status



### Elements of Quality in the HIP Literature

Although it might be reasonable to expect all eight HIP quality elements to be represented in every HIP, this may not be feasible in practice. As the HIP descriptive statistics (Appendix D) show, students' exposure to items varies across HIPs. In addition, particular

elements are not inherent to specific HIPs. For example, the element engaging with diversity may be less a part of undergraduate research or culminating experiences than it is for study abroad. Indeed, the extensive literature base that exists for each HIP demonstrates an emphasis on some elements more than others. For example, one of the foundational practices extolled about undergraduate research is substantive interaction with faculty, while engaging across difference and structuring opportunities to reflect and integrate are less emphasized. By contrast, the literature on service-learning places a strong emphasis on helping students engage across difference, while substantive interaction with faculty has a lower profile.

To connect our exploration of quality with descriptions of instructional practice and evidence in the HIP literature base, we scanned foundational HIP literature to map the expression of HIP quality elements to specific HIPs. Literature consulted included research and publications associated with the major organizations that promote HIPs. This included publications by the Council for Undergraduate Research (undergraduate research), Campus Compact and the Association for Experiential Education (service-learning), National Resource Center for the First-Year Experience and Students in Transition (first-year seminar), Washington Center for Undergraduate Education and the Learning Communities Association (learning communities), Open Doors and the Forum of Education Abroad (study abroad), and the National Association of Colleges and Employers (internships). In addition, HIP resources and publications of the Association of American Colleges and Universities (e.g., Brownell & Swaner, 2009, 2010 and special issues of *Peer Review*), the Michigan Journal of Community Service Learning, Elon University's Center for Engaged Learning, and foundational books including *How College Affects Students*, *Students Success in College*, *Completing College: Rethinking Institutional Action*, *Sustaining and Improving Learning Communities*, were also consulted to determine emphasis of the elements. Table 4 reports the results of this review, indicating where the literature moderately emphasized (+) or strongly emphasized (++) each element for each HIP.

Table 4. Emphasis of HIP Elements of Quality in the HIP Literature, by HIP.

<i>High-Impact Practice</i>	High Expectations for Performance	Demand Time and Effort	Substantive Interaction with Faculty & Peers	Engaging Across Difference	Provide Rich Feedback	Structured Opportunities to Reflect	Structured Opportunities to Integrate	Applied, Real World Experiences	Public Demonstration of Competence
<i>First-year seminar</i>	+	+	++	++	++/+	++	++		
<i>Service-learning</i>	+	++	+	++	+	++	++	++	+
<i>Learning community</i>		+	++	+		+	+	+	+
<i>Undergraduate research</i>	++	++	++		+	+	+	++	++
<i>Internship or field experience</i>	++	++	+		+	++	++	++	+
<i>Study abroad</i>	+	+	+	++	+	++	++	+	
<i>Culminating senior experience</i>	++	++	++		++	++	++	++	++

This analysis confirms that most of the qualities are emphasized for most HIPs, yet certain elements are not emphasized for certain HIPs. The HIP matrix offers a helpful guide to dig more deeply into levels of quality in each HIP and to examine “high quality HIPs.”

### Measuring “High-Quality” HIPs

One of the novel ideas in this research was to develop criteria for “high-quality” HIPs. While students report exposure to all the HIP quality elements within each HIP, the frequency and intensity is not consistently at the highest levels of the scales. If the HIPs movement is interested in assessing and designing for *high-quality* HIPs, then we ought to explore the evidence of a higher standard of quality. Toward these ends, we established criteria for high quality for each of the quality elements. Since the quality dimensions are represented by several items, we had to develop criteria for each element separately. For example, the Time and Effort quality was a simple five-point scale about relative time required for the learning experience, so we defined high-quality as a score of 4 (more time) or 5 (much more time), whereas the quality of Applied, Real World Experience is represented by five four-point Likert items, so high quality was defined as a sum score greater than 15 (out of a possible 20). The criteria for constructing high quality for each element are in Appendix E. Although this method provides scores of “high quality” and “not high quality” for each element of HIP quality, it is important to keep in mind

that our determinations and cut-offs are subjective. Reasonable people could disagree with our decisions, but we wanted to assert criteria that were based in students' actual experience, and that reflected aspirations for practice. We could have set a very high bar and insisted that high quality be represented by the absolute highest score for the scale, but this seemed onerous for assessment and impractical for instructional practice.

Having stipulated quality, and calculating high quality scores for each element, we were then able to examine the proportion of students who experienced high-quality HIPs. Returning to our HIP matrix (Table 4) to recognize that elements may be differently emphasized within HIPs, in Table 5 we display the proportion of students who report high quality elements by HIP.

Table 5. Proportion of Students Experiencing High Quality HIPs in the Literature

<i>High-Impact Practices</i>	High Expectations for Performance	Demand Time and Effort	Substantive Interaction with Faculty & Peers	Engaging Across Difference	Provide Rich Feedback	Structured Opportunities to Reflect	Structured Opportunities to Integrate	Applied, Real World Experiences	Public Demonstration of Competence
<i>First-Year Seminar</i>	75	16	<b>42</b>	<b>11</b>	<b>63</b>	<b>43</b>	<b>34</b>		
<i>Service Learning</i>	83	<b>31</b>	40	<b>17</b>	64	<b>47</b>	<b>39</b>	<b>43</b>	<b>90</b>
<i>Learning Communities</i>		29	<b>46</b>	19		53	40	47	88
<i>Undergraduate Research</i>	<b>94</b>	<b>47</b>	<b>66</b>		88	61	33	<b>67</b>	<b>95</b>
<i>Internships, etc.</i>	<b>93</b>	<b>54</b>	55		85	<b>65</b>	<b>43</b>	<b>78</b>	88
<i>Study Abroad</i>	93	46	64	<b>70</b>	76	<b>64</b>	<b>62</b>	54	
<i>Culminating senior experience</i>	<b>90</b>	<b>62</b>	<b>52</b>		<b>74</b>	<b>56</b>	<b>30</b>	<b>57</b>	<b>95</b>

Note: Boldface corresponds to strong emphasis

These results suggest that in general, students experience HIP qualities in patterns consistent with what the literature emphasizes and we would expect, for example the qualities, High Expectations for Performance and Public Demonstration of Competence are experienced at levels of high quality by most students in Undergraduate Research (94 & 95%) and the quality, Engaging Across Difference, is experienced at levels of high quality by over two-thirds of students in Study Abroad.

The levels of emphasis and proportion of students who experience these at levels of high quality suggests some potential opportunities for affirming and enhancing practice. In terms of strength across all HIPs, the quality of High Expectations for Performance stands out. A high proportion of students reported that expectations for what they would do and learn from the experience were explained, and that the experience challenged them to do their best. This characteristic seems to exemplify a core feature of HIPs: they are purposeful, intense, and



challenging. Two other qualities, Provide Rich Feedback and Public Demonstration of Competence also seem to be consistent elements in HIPs. Providing Rich Feedback was actually more highly emphasized than the literature review in four HIPs (undergraduate research, study abroad, service-learning, and internships) suggested. The results for these four HIPs suggest the need to revisit the HIP Literature matrix (Table 4) for possible revisions on level of emphasis.

The following elements show considerable variability in the share of students experiencing them across HIPs: Demand Time and Effort (16-62%); Structured Opportunities for Reflection (43-65%) and Integration (33-62%) and Applied, Real World Experiences (47-78%). These results reveal an opportunity for improving consistency and strengthening quality in HIPs, with particular focus on areas of emphasis indicated in the literature. For example, Structured Opportunities for Reflection and Integration were high-quality for less than 50% of students in service-learning, yet these elements are widely considered to be best practices in service-learning. One element, Engaging Across Difference revealed very low shares of quality (11-70%), with the largest share in study abroad, suggesting that this element is an underemphasized aspect of HIP experiences.

The results displaying proportions of students meeting our standard of high-quality by level of emphasis in the literature has the potential to contribute to efforts to more closely examine and improve elements of quality across HIPs. However, its most important contribution is to provide an opportunity for proponents and practitioners of specific HIPs to consider differences between the literature and what students report, and to account for the specific instructional practices and educational approaches that contribute to the elements where there is consonance between the literature and students experience. Implications for quality improvement and additional research and more importantly, equity and inclusion are discussed in subsequent sections.

## **Evidence of Equity**

HIP research generally suggests salutary benefits for historically underrepresented students. Yet, HIP participation data reveals inequities to access by race-ethnicity, for instance 51% of White students compared to 40% of African American students participated in internships (National Survey of Student Engagement, 2019). Of course, if students are not experiencing HIPs they are not in a position to benefit from them. Beyond access, Finley and

McNair (2013) argue that how HIPs are structured and experienced by different groups of students varies and may influence their effectiveness and ultimately, benefits to students. Concerns have been raised that HIPs may create opportunities for impactful but highly negative experiences for students of color by creating situations in which students may be exposed to microaggressions and other racist behaviors (Patton et al., 2015). We know issues of uncertain quality, uneven access and concerns about negative experiences for racially minoritized students are rightly worrisome to educators concerned with quality, equity and inclusion. In this section we describe results for high-quality HIPs by racially minoritized groups.

As we displayed in the High Quality HIP Experiences (Table 5) earlier, we feature the percentages of high-quality HIPs experiences among White students and racially minoritized students. In Table 6, values for White students are the left in each pair, for example, 57% of White students in Internships reported spending more time on the experience than their typical class and so met our threshold for high-quality, while 50% of racially minoritized students in internships did.

Table 6. Proportion of Students Experiencing High-Quality HIPs by White and Racially Minoritized Identity

High-Impact Practice	High Expectations for Performance	Demand Time and Effort	Substantive Interaction with Faculty & Peers	Engaging Across Difference	Provide Rich Feedback	Structured Opportunities to Reflect	Structured Opportunities to Integrate	Applied, Real World Experiences	Public Demonstration of Competence
<i>First-year seminar</i>			41, 46	11, 12	59, 67	40, 46	33, 35		
<i>Service-learning</i>		29, 31		18, 17		47, 48	38, 40	43, 45	
<i>Learning community</i>			43, 49						
<i>Undergraduate research</i>	95, 93	48, 51	66, 67				30, 40	66, 71	96, 98
<i>Internship or field experience</i>	93, 92	57, 50				64, 71	39, 52	78, 80	
<i>Study abroad</i>				74, 69		66, 63	62, 66		
<i>Culminating senior experience</i>	90, 90	64, 57	53, 52		74, 74	56, 56	27, 34	58, 57	99, 97

Note: Percentages are only reported for elements that are strongly emphasized in the literature.

Although most proportions are similar, some notable differences exist in the percentage experiencing high-quality HIPs by racial-ethnic identity, in internships, study abroad, and first-year seminars. Positive differences in favor of racially-minoritized students were found with across several quality elements in first-year seminar, specifically Provide Rich Feedback, and Structured Opportunities to Integrate in senior culminating experiences and particularly, internships and undergraduate research. However, Engaging Across Difference in study abroad

and Demand Time & Effort in internships have significantly lower proportions of racially minoritized students reporting experiences that met our threshold for high-quality.

### Examining HIP Quality Across the Eight Elements

In addition to examining the eight elements individually, we created an aggregate quality measure ranging from 0-9, corresponding to the number of individual HIP quality measures that reach the high-quality threshold. This affords another view of HIP quality and equity. Table 7 displays summary statistics for this overall measure by HIP. On average, we found students met about two-thirds of our criteria for high-quality HIP experiences, depending on HIP (5.6 overall mean). Some HIPs (internships or field experiences, or study abroad experiences) exhibited higher levels of quality than others (first-year seminars, service-learning).

Table 7. Summary statistics for Overall Measure of HIP Quality

<i>High-Impact Practice</i>	<i>Mean</i>	<i>25th Percentile</i>	<i>75th Percentile</i>
<i>First-year seminar</i>	4.3	3	6
<i>Service-learning</i>	5	3	7
<i>Learning community</i>	5.2	4	7
<i>Undergraduate research</i>	5.8	5	7
<i>Internship or field experience</i>	6.2	5	8
<i>Study abroad</i>	6.4	5	8
<i>Culminating senior experience</i>	5.5	4	7

Students’ overall satisfaction with their HIP is a meaningful gauge of quality and it is an important rating to monitor among racially minoritized students. As presented in Figure 1, a large share of students were highly satisfied with their HIP experience, and our examination of satisfaction levels by racial-ethnic identity reveals relatively consistent levels of satisfaction across groups. Interestingly, student satisfaction scores displayed in Figure 1 correlate moderately (.51,  $p < .001$ ) with our aggregate measure of high-quality HIPs.

### Evidence of High Quality and Equity by HIP

Tables 8.1 and 8.2 below describes overall quality averages within each HIP, by race/ethnicity and first-generation status, respectively. Again, on average students were found to have met our criteria for high-quality experiences in a majority of HIPs, regardless of race/ethnicity. White student averages tended to closely align with the overall averages by HIP reported in Table 7, as one might expect given their representation in the sample. Black or African

American student averages were similar or slightly higher, as were those of Hispanic or Latino students. Similar to student-rated satisfaction (Fig. 1), variation in overall quality appears to be driven by HIP more than race/ethnicity.

Table 8.1 Overall Quality Means by Race-Ethnicity and HIP

<i>High-Impact Practice</i>	<i>American Indian or Alaska Native</i>	<i>Black or African American</i>	<i>Hispanic or Latino</i>	<i>Multiracial</i>	<i>White</i>
<i>First-year seminar</i>	6.5	4.5	4.6	4.6	4.2
<i>Service-learning</i>	5.7	5.1	5.0	5.0	4.9
<i>Learning community</i>	5.8	5.1	5.2	5.1	5.2
<i>Undergraduate research</i>	--	6.2	6.3	5.8	5.8
<i>Internship or field experience</i>	6.6	6.6	6.6	5.9	6.2
<i>Study abroad</i>	5.5	6.5	6.6	6.6	6.4
<i>Culminating senior experience</i>	4	5.6	5.5	5.7	5.4

Note: Fewer than 30 student cases were used to calculate means for American Indian or Alaska Native in each HIP, and for Multiracial students in First-year seminars.

Table 8.2 Overall Quality Means by First-generation Status and HIP

<i>High-Impact Practice</i>	<i>First-generation (no college)</i>	<i>First-generation (some college)</i>	<i>Not First-generation</i>
<i>First-year seminar</i>	4.4	4.3	4.2
<i>Service-learning</i>	5.0	5.0	4.9
<i>Learning community</i>	5.3	5.1	5.1
<i>Undergraduate research</i>	6.0	5.8	5.7
<i>Internship or field experience</i>	6.4	6.3	6.2
<i>Study abroad</i>	6.4	6.2	6.4
<i>Culminating senior experience</i>	5.5	5.4	5.4

## Discussion and Implications

Our exploration of students’ exposure to the elements that make high-quality HIPs deepens discussions about implementing equitable and more widespread HIPs. The primary benefit of this inquiry is to focus more attention on the design, instructional practices, learning outcomes, interactions, and personal gains that make HIPs high-impact. By assessing elements of students’ HIP experiences, we get beyond simple counts of offerings and percentage participation that have fueled concerns that institutions have adopted a “checklist mentality” toward HIPs. It is not enough for institutions to have HIPs. Rather, there should be some assurance that HIP offerings conform to quality standards and that access to quality is equitable.

## **Practical, Assessment Implications**

The development of an instrument that can universally assess elements that make all HIPs high impact is an important contribution to assessment and research. The instrument is short, understandable to students, and has sound psychometric properties. The instrument performs well on NSSE as a contingent set dependent on students' responses to questions about their participation in HIPs, and it also works well as a standalone set delivered to students who have experienced HIPs. The successful tests of these two administration modes suggest that the set can be made available to institutions participating in future NSSE administrations and also publicly available as a standalone instrument.

At the institution level, the assessment tool and results are useful to quality assurance and improvement efforts. Institutions interested in assessing the quality of their distinct HIP offerings could invite students in these HIPs to complete the survey, and the results could be used to gauge strengths and weaknesses in comparison to the criterion for high-quality HIPs. Results can inform assessment, quality improvement and accreditation initiatives, curriculum and faculty development projects, and specific efforts to enhance HIPs. For example, campus leaders may find instances where a HIP exhibits fewer quality characteristics than expected that compels an improvement effort. These data will allow institutions to gauge the extent to which their HIP offerings deliver on the elements that make them beneficial and to take action to address shortcomings. In another example, an institution could explore the elements that are most reliably experienced in a senior capstone and also examine whether there are differences by student characteristics or major. Results could inspire focused curricular interventions and faculty development to strengthen intentional HIP design and implementation. The experience of underrepresented students, including by race-ethnicity, first-generation or transfer status could be studied for equity.

Although this short instrument allows for needed further examination of HIP quality, upon reflecting on our findings, it is clear that we are still capturing limited qualities of students' experiences in HIPs. For example, the quality of "Engaging Across Difference" could be further probed with deeper questions about consciousness raising, cultural competency, commitment to racial equity and justice, and other expressions of cross-cultural engagement. Contextualizing the instrument and findings for each institution could also help improve this measure and the overall

instrument for assessment and research since the experience and campus culture and climate can influence high quality. Finally, students open ended comments about what was most and least satisfying in their HIP experience can also be mined for new dimensions of quality and to capture students' views about what was valuable.

## **HIP Quality Improvement**

The identification of eight elements that make HIPs high-impact are generally promoted as if they should be inherent in all HIPs. However, there is little discussion at this level of detail in implementation and assessment and research. To what extent should all HIPs evenly represent all eight elements in the experience? Is this expectation achievable? Our examination of these eight elements by HIP shows that the elements are experienced unevenly within and across HIPs. Again, descriptive data display a relatively wide range of exposure to all the items suggesting that particular instructional practices could be targeted for increased emphasis. In short, quality elements are represented in HIPs, though not necessarily to the degree we might want and at the level of quality suggested by their label.

Given results showing that the eight qualities are unevenly experienced within HIPs, we conjectured that it may be excessive to expect even representation in practice. To explore this idea further, we looked to the general body of HIP literature and the literature of each HIP to identify evidence of these qualities. Although our literature review was not exhaustive, our matrix documenting the level of emphasis on the elements represents tentative expectations for quality anchored in evidence. It shows that on average, 4 of the 8 elements are “strongly emphasized” across HIPs. Adding in our conclusions about “moderate emphasis” increases this average to 7. This information suggests that while there is generally moderate emphasis on the qualities across all HIPs, the level for emphasis differs within each HIP. In fact, no element is universally strongly emphasized across all HIPs. The most documented emphases are Time and Effort, Interaction with Faculty and Peers, and Structured Opportunities to Reflect and Integrate. The HIPs with the most elements (5 or more) at the level of strong emphasis are: undergraduate research and capstone/senior culminating experience. These results affirm our tentative hypothesis that it may be unreasonable to expect every HIP to deliver on all elements. However, it also suggests the value of adopting a quality expectation that is at least based in assuring some standard of practice in HIPs.

Interestingly, in the several presentations we have made to share our preliminary findings, assessment practitioners, scholars and educators were particularly interested in the literature matrix display. Proponents of one HIP or the other were quick to defend the importance of some qualities and to acknowledge that others were largely ignored in practice and research. Several educators commented that the matrix was a helpful framework to encourage faculty discussion about improving HIP practice, and to inform discussions about how elements of most interest to the institution could be enhanced by placing greater emphasis on the practice across all HIPs. Even more, educators raised concerns that some elements were less represented in the literature. For example, Engaging Across Difference was emphasized in only 4 HIPs. Many educators were interested in learning more about the literature consulted to inform the matrix display and estimations of the strength of the evidence.

Our stipulation of standards for high-quality allowed us the opportunity to generally explore if HIPs are high quality, and in particular, determine the HIPs and the elements that are dependably high quality and those that are falling short. Again, we thought it was helpful to examine HIP quality results through the lens of the literature. As discussed in the results section, Table 5 displays the rather uneven proportion of students who experience high-quality HIPs. Across the elements, results range from a low of only 11% to a high of 95%. This wide range suggests considerable variation in students' experience of high-quality elements. Within HIPs, the proportion of students experiencing high-quality elements varies with the highest average score for high quality (at or above 60%) in three HIPs: undergraduate research, study abroad and internships. On the other hand, the lowest average scores for high quality (below 40%) are associated with: first year seminar, learning communities and service learning. In other words, three HIPs - undergraduate research, study abroad and internships- are most reliably delivering the elements most emphasized in the literature at levels of high-quality, and three - first year seminar, learning communities and service-learning - are less reliable. Findings about high quality elements and HIPs can help inform improvement efforts within particular practices and within institutions' quality enhancement initiatives.

In response to the strong interest from the field to explore each HIP in depth to discover more about the elements that contribute to their impact, our findings generally demonstrate pockets of high-quality HIP elements. Yet it also reveals considerable variation in the expression

of HIP elements across seven HIPs and in the extent to which students overall experience high-quality HIPs. This leads us to the linked conclusions that HIPs may not be evenly assuring quality across the eight elements and that HIPs are not reliably high quality. Importantly, our research design and associated findings suggest the importance of getting beyond a simple measure of HIP offerings or participation to study the effect of HIP on valued outcomes. In particular our findings offer a counterfactual to studies, such as Johnson and Stage (2018) that analyzed the relationship between institutions offering HIPs and institutional graduation rates and found no significant association. The use of an institutional measure of mere offering of HIPs is not sufficient to study quality or impact. We continue to believe that HIPs convey many educational benefits and are associated with positive outcomes. Our findings expand on the view that HIPs are not high-quality simply by being labeled a HIP. Greater attention to implementation of the elements and to aspects established in HIP literature are important to efforts to make HIPs more widespread.

### **Implications for Equity**

One of the findings about HIPs that captured a significant amount of attention was the salutary benefit for historically underserved students (Finley & McNair, 2013; Kuh, 2008). Yet, HIPs are vulnerable to issues related to access, privilege and quality. Critiques leveled about HIPs, which aim to dismiss them because they are defined and studied by scholars who are White and privileged and that the term “high-impact” deprioritizes other culturally relevant practices (Patton et al., 2015; Stewart & Nicolazzo, 2018), were considered in our research and findings. Getting beyond the HIP label to understand more about students’ experiences with the elements that make the practice high impact and studying these elements among racial-minoritized students helps shed light on the equitability of these qualities.

Our findings about racially-minoritized students experiences in HIPs suggests that for the most part, the elements that make HIPs high quality are being experienced by significant proportions of racially-minoritized students. Two HIPs, study abroad and internships, showed lower proportions of racially-minoritized students reporting experiences that met our threshold for high-quality including “Engaging Across Difference” (in study abroad) and “Demand Time & Effort” (in internships). Difference in these dimensions of quality for racially minoritized students and study abroad comes as no surprise considering previous literature that highlights the



roles of social and cultural capital in shaping the study broad experience (Simon & Ainsworth, 2012). Moreover, the favorable proportion of racially minoritized students experiencing high quality Structured Opportunities to Integrate in both undergraduate research and internships is notable. Is it that these two traditionally highly-experiential and strongly field-based HIPs represent distinct opportunities for racially minoritized students to bring together their knowledge and experience in educationally meaningful ways that changed the way they understand an issue or concept?

The favorable results for racially minoritized students across several elements of quality in first-year seminars is also interesting. However, because respondents in this HIP were the only ones exclusively from the from the standalone Qualtrics administration, it could suggest that these particular HIPs were designed with equity in mind. Additional data collection about quality in this HIP could help explore this further. Notably, Table 8.1, which displays our aggregate measure of quality as a mean score by race-ethnicity and HIP, does not show much difference, and the differences are mostly positive relative to White students. All groups fare well regarding overall quality (mean scores ranging from 4-6 of 9 criteria met, meaning that 50-70% were high quality). This suggests that more often than not, racially minoritized students are experiencing high quality HIPs and that only a couple elements within specific HIPs – “Engaging Across Difference” and “Time and Effort” – might deserve further exploration and attention for equity.

Differences in certain qualities of HIPs for racially minoritized students, though not staggering, suggest further examination of quality from an equity standpoint. Our review of the literature to explore the extent to which HIP quality elements were discussed could also be deepened to study issues of equity. The foundational literature discussed the importance of equitable access to HIPs, generally decrying gaps in participation, or promoting outcomes for particular initiatives. For example, success that initiatives such as Undergraduate Research Opportunity Programs or Summer Equity Research Programs have had in engaging racially-minoritized students in undergraduate research, are well-known (e.g. Carpi et al., 2017; Collins et al., 2018). However, there was very little discussion about the HIP elements of quality except for some consideration of the importance of mentoring and advising about career pathways and the value of hands-on research experiences. Elements of quality HIPs deserve more

consideration as factors in HIP scholarship. In addition, focusing attention on implementation shifts the onus from students to assimilate to current manifestations of HIPs and instead asks the institution to rethink quality with the needs of the ever-changing student body in mind.

Ensuring that racially-minoritized student populations have access to HIPs and have high-quality experiences is a critical equity consideration. While our findings suggest where equity considerations might be increased, it does not address larger questions about the possible presence of blatant racism or microaggressions in HIPs, and the critique that racial-minoritized student populations might identify completely different practices as high impact and transformative for their learning and success. While these questions are worth pursuing, educators concerned about equity and students well-being might get some reassurance that a majority of racially minoritized students reported a high level of satisfaction (about 60%) and only a small fraction (less than 10%) rated their experiences as low satisfaction. While satisfaction is not a guarantor of quality within student engagement, it is an important indicator to assess the wellbeing of students.

Attention to diversity, equity and inclusion in higher education is a strong commitment at most institutions for all students. Indeed, capacity to interact and work collectively across difference is something expected of all graduates in the 21<sup>st</sup> century, not just an option for the privileged few (Schneider, 2013). It is a responsibility of institutions to structure learning in a way that creates a safe environment for all students, including racially minoritized populations. Focusing on the quality element of Engaging Across Difference across all HIPs provides an avenue to improve cross-cultural interactions. As an expected component of a high-quality college education, we must double down on Engaging Across Difference as an essential HIP element. The range of evidence of high-quality on the Engaging Across Difference element revealed in our research suggests that this is a topic worthy of greater attention in institutions, among HIP proponents and in research and in practice. Of course, more in-depth or expansive measures of engagement across difference are also needed to assess and improve cross-cultural knowledge and competencies.

The findings in this study have immediate practical implications for colleges and universities. While efforts to produce and adopt quality assurance criteria for specific HIPs have advanced through efforts like the IUPUI engaged learning taxonomies (e.g.; Institute for

Engaged Learning, 2020) institutions need instruments and approaches to assess their students' experiences and to connect their assessment data to actual evidence of student learning gains. The development of a universal HIP Quality survey can help institutions examine the quality of their HIPs and connect the data to outcome evidence including retention, graduation and student learning outcomes such as problem-solving, integration and ability to apply learned skill and knowledge in real-world settings. Centers for teaching and learning and faculty development, and curriculum committees, are also implicated in our findings. Results showing gaps in representation and high-quality elements in HIPs could inform initiatives to develop HIP improvement workshops. Educators will need help to develop and enrich the eight quality elements in HIPs.

### **Considerations for Lumina Foundation**

Lumina Foundation's priorities for action to reach Goal 2025 broadly outline the fundamental shifts needed in postsecondary education to ensure quality credentials for more Americans. Greater investment in educational practices known to positively contribute to students' learning, degree progress, and success is an important aspect of this goal. Quality credentials must assure equitable access to educational experiences such as HIPs that matter for learning and success. Lumina's priority on quality assurance suggests that institutions need evidence that the HIPs they offer are of high quality and are truly associated with better outcomes for students.

The HIP Quality project findings also helps to inform and facilitate Lumina's Equity Imperative. Although the benefits of HIPs to historically underserved students, including low-income and students of color, are well established, gaps in HIP opportunities persist. Our findings suggest the importance of promoting the qualities that make high quality HIPs for all students and in particular, racially minoritized students. Even more, assessment of the dimensions that make HIPs high quality will help focus institutions attention on ensuring HIPs are designed and assessed for quality and that these experiences are made more widespread. This research points to the importance of assuring that quality credentials are built around high-quality learning experiences.

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## Appendix A: Project Staff

**Jillian Kinzie, Ph.D.** (Co-PI) is associate director of CPR where she leads the NSSE Institute for Effective Educational Practice, NSSE's outreach and service arm. She also serves as senior scholar at the National Institute for Learning Outcomes Assessment. She shares overall project leadership.

**Alexander C. McCormick, Ph.D.** (Co-PI) is associate professor of educational leadership and policy studies at Indiana University Bloomington, where he also serves as NSSE director and senior associate director of CPR. He shares overall project leadership.

**Robert M. Gonyea, Ed.D.** is associate director of CPR where he leads research and data analysis. He also teaches survey methodology at IU's School of Education. He provides guidance on survey item development and analysis.

**Brendan Dugan, M.A.** is a research associate at CPR, where he supports NSSE data analysis and reporting. He plays a lead role in survey design (in collaboration with IU's Center for Survey Research), data analysis, and report development.

**Samantha Silberstein** is a member of CPR's staff of doctoral level graduate assistants and provides day-to-day support for promotion and institutional recruitment, coordination of institutional participation, and reporting.

## **Appendix B: Eight Key Elements of High Impact Practices**

1. Performance expectations set at appropriately high levels
2. Significant investment of time and effort by students over an extended period of time
3. Interactions with faculty and peers about substantive matters
4. Experiences with diversity wherein students are exposed to and must contend with people and circumstances that differ from those with which students are familiar
5. Frequent, timely, and constructive feedback
6. Periodic, structured opportunities to reflect and integrate learning
7. Opportunities to discover relevance of learning through real-world applications
8. Public demonstration of competence

Source: *Ensuring Quality & Taking High-Impact Practices to Scale* by George D. Kuh and Ken O'Donnell, with Case Studies by Sally Reed. (Washington, DC: AAC&U, 2013).

## Appendix C: HIP Quality Instrument

Responses to item 1.a determined tense, either past if “Yes” or [present] if “No.”

### NSSE Beta and Qualtrics Items HIP Quality – 2019

**Informed consent language:** Thank you for participating in our study about special learning opportunities that some students do in college. These questions should take about 3-5 min to answer. Your participation is voluntary.

#### **INTRODUCTION SCREEN LANGUAGE:**

##### **I. Which of the following have you done or do you plan to do before you graduate?**

*4=Done or in progress, 3=Plan to do, 2=Do not plan to do, 1=Have not decided*

- a. Participate in an internship, co-op, field experience, student teaching, or clinical placement
- b. Participate in a learning community or some other formal program where groups of students take two or more classes together
- c. Participate in a study abroad program
- d. Work with a faculty member on a research project
- e. Complete a culminating senior experience (capstone course, senior project or thesis, comprehensive exam, portfolio, etc.)

**[QUALTRICS ONLY:** first year seminar = Participate in a course during your first year focused on a specific academic topic or major that teaches new students college success skills (goalsetting, study skills, campus resources, etc.)]

##### **II. About how many of your courses at this institution have included a community-based project (service-learning)?**

*4=All, 3=Most, 2=Some, 1=None*

----

**[IF ONLY ONE HIP]** You indicated that you participated or are participating in **[INSERT HIP]**. If you participated in this experience more than once, base your answers on the one you *most recently* participated in.

**[IF MORE THAN ONE HIP]** You indicated that you participated or are participating in some special learning experiences. Please select just ONE of these experiences so that we may ask a set of follow-up questions about it. It can be any one you choose, as long as you remember it well enough to answer some questions:

##### **1a. Is this experience finished? 1=Yes, 0=No**

*[If “No”]*

- 1b. About how long have you been participating in it? 1=1 week or less, 2=2 weeks, 3=3 weeks, 4=More than 3**

*[If “Yes”]*

- 1c. In what year of college did you participate in this experience? (If you participated more than once, select the most recent.)**

*1=Freshman/first year, 2=Sophomore, 3=Junior, 4=Senior, 5=Other, please specify: \_\_\_\_\_*

##### **2. To what extent were expectations for the following explained to you?**

*4=Very much, 3=Quite a bit, 2=Some, 1=Very little*



- a. What activities you would **do** as part of this experience  
 b. What you would **learn from** this experience
- 3. To what extent did [does] this experience challenge you to do your best?**  
*7=Very much, 6, 5, 4, 3, 2, 1=Not at all*
- 4. About how much time did you spend [When completed, about how much time will you have spent] on this experience?**  
*1=Less than one month, 2=1-2 months, 3=3-4 months, 4=5-6 months, 5=More than 6 months*
- 5. About how many hours did [do] you spend in a typical 7-day week on this experience?**  
*0=0, 1=1-5, 2=6-10, 3=11-15, 4=16-20, 5=21-25, 6=26-30, 7=More than 30 hours*
- 6. Compared to your typical learning experiences at this institution, about how much time did [does] this experience require?**  
*5=Much more time, 4=More time, 3>About as much time, 2=Less time, 1=Much less time*
- 7a. As part of this experience, about how often did [do] you meet with a faculty or staff member from your institution?**  
*4=Very often, 3=Often, 2=Sometimes, 1=Never*  
*[If 2, 3, or 4 above]*
- 7b. To what extent did [do] these meetings focus on what you were [are] learning in this experience?**  
*4=Very much, 3=Quite a bit, 2=Some, 1=Very little, -9=student did not receive question*
- 8a. As part of this experience, about how often did [do] you work with other students?**  
*4=Very often, 3=Often, 2=Sometimes, 1=Never*  
*[If 2, 3, or 4 above]*
- 8b. To what extent did [does] working with other students contribute to your learning?**  
*4=Very much, 3=Quite a bit, 2=Some, 1=Very little, -9=student did not receive question*
- 9. During this experience, about how often did [do] you receive feedback from the following individuals?**  
*4=Very often, 3=Often, 2=Sometimes, 1=Never, 9=Not applicable*
- a. Faculty or staff member from your institution  
 b. Supervisor on site  
 c. Co-worker  
 d. other student  
 e. Someone in another role ↳ Please specify: \_\_\_\_\_  
*[If 2, 3, or 4 on any of above]*
- 10. To what extent was [is] this feedback beneficial?**  
*4=Very much, 3=Quite a bit, 2=Some, 1=Very little, -9=Student did not receive this item*
- 11. As part of this experience, about how often did [do] you interact with people who differ from you in significant ways (race/ethnicity, socioeconomic background, political or religious beliefs, etc.)?**  
*4=Very often, 3=Often, 2=Sometimes, 1=Never*
- 12. As part of this experience, about how often did [do] you find yourself in settings or circumstances that were [are] new or unfamiliar to you?**  
*4=Very often, 3=Often, 2=Sometimes, 1=Never*
- 13. As part of this experience, about how often did you do [have you done] the following?**  
*4=Very often, 3=Often, 2=Sometimes, 1=Never*

- a. Discuss your experience with other students in an organized setting (class, seminar, work group, etc.)
  - b. Write an informal piece about the experience (blog, journal, etc.)
  - d. Connect what you were learning to societal problems or issues
  - e. Connect what you were learning to your major field or career goals
  - f. Connect what you were learning to your other coursework
  - g. Learn something that changed the way you understand an issue or concept
- 14. To what extent has this experience contributed to your knowledge, skills, and personal development in the following areas?**  
*4=Very much, 3=Quite a bit, 2=Some, 1=Very little*
- a. Understanding concepts in your courses or major
  - b. Applying theory to practice
  - c. Solving complex, real-world problems
  - d. Acquiring job- or work-related skills
  - e. Preparing for your plans after graduation
- 15. At or near the conclusion of this experience, which of the following did you do [will you have done]?**  
*4=Done or in progress, 3=Plan to do, 2=Do not plan to do, 1=Have not decided*
- a. Give a formal presentation for a class or other closed meeting at your institution
  - b. Give a formal presentation for a wider audience (conference, video, performance, recital, exhibit, etc.)
  - c. Write a formal paper or report
- 16. Did [will] you receive academic credit for this experience?**  
*1=Yes, 0=No, 9=Unsure*
- 17. Overall, how would you evaluate the quality of this experience?**  
*7=Excellent, 6, 5, 4, 3, 2, 1=Poor*
- [Qualtrics only] 18. What has been most satisfying about this experience? (open ended characters 500)**
- [Qualtrics only] 19. What has been least satisfying about this experience? (open ended characters 500)**

**You are almost finished! We have just a few more questions about you. [DEMOGRAPHICS]**

## Appendix D. Collapsed Frequencies of Survey Items, by HIP

	<i>Response</i>	<i>First-year seminar %</i>	<i>Service- learning %</i>	<i>Learning community %</i>	<i>Undergraduate research %</i>	<i>Internship or field experience %</i>	<i>Study abroad %</i>	<i>Culminating senior experience %</i>
<b>Expectations</b>								
To what extent were expectations for ...What activities you would do as part of this experience	Quite a bit/ Very much	71	68	70	83	83	81	78
*To what extent were expectations for ...What you would learn from this experience	Quite a bit/ Very much	76	71	73	83	83	84	77
To what extent did this experience challenge you to do your best?	High challenge (6 or 7)	30	39	42	70	69	67	65
<b>Time and effort</b>								
*About how much time did you spend on this experience?	5 months or more	13	13	55	64	43	21	35
*About how many hours did you spend in a typical 7-day week on this experience?	Over 10 hours	9	17	28	32	73	83	32
Compared to your typical learning experiences at this institution, about how much time did this experience require?	At least more time	16	31	29	47	54	46	62
<b>Interactions</b>								
As part of this experience, about how often did you meet with a faculty or staff member from your institution?	Often/ Very often	37	37	44	76	38	53	52
To what extent did these meetings focus on what you were learning in this experience?	Quite a bit/ Very much	68	60	69	76	74	75	71
*As part of this experience, about how often did you work with other students?	Often/ Very often	60	59	78	55	45	83	56
*To what extent did working with other students contribute to your learning?	Quite a bit/ Very much	57	63	73	68	64	79	63

		<i>First-year seminar</i>	<i>Service- learning</i>	<i>Learning community</i>	<i>Undergraduate research</i>	<i>Internship or field experience</i>	<i>Study abroad</i>	<i>Culminating senior experience</i>
<i>Response</i>		<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>
<b>Feedback</b>								
During this experience, about how oft...Faculty or staff member from your institution	Often/ Very often	63	52	63	79	55	59	69
During this experience, about how oft...Supervisor on site	Often/ Very often	45	46	42	67	77	59	50
During this experience, about how oft...Co-worker	Often/ Very often	32	37	33	53	67	38	36
During this experience, about how oft...Other student	Often/ Very often	47	50	63	53	37	61	54
During this experience, about how oft...Someone in another role	Often/ Very often	28	43	50	55	62	69	48
To what extent was this feedback beneficial?	Quite a bit/ Very much	66	68	75	89	87	78	76
<b>Diversity</b>								
As part of this experience, about how often did you interact with people who differ from you in significant ways (race/ethnicity, socioeconomic background, political or religious beliefs, etc.)?	Often/ Very often	66	67	77	65	79	90	62
As part of this experience, about how often did you find yourself in settings or circumstances that were new or unfamiliar to you?	Often/ Very often	43	52	52	58	72	93	44
<b>Reflect &amp; integrate</b>								
As part of this experience, about how...Discuss your experience with other students in an organized setting (class, seminar, work group, etc.)	Often/ Very often	59	58	71	55	55	77	61
As part of this experience, about how...Write an informal piece about the experience (blog, journal, etc.)	Often/ Very often	35	41	33	24	41	49	25
As part of this experience, about how...Connect what you were learning to societal problems or issues	Often/ Very often	50	55	53	47	53	71	48
As part of this experience, about how...Connect what you were learning to your major field or career goals	Often/ Very often	60	59	66	84	87	74	77

	<i>Response</i>	<i>First-year seminar</i>	<i>Service-learning</i>	<i>Learning community</i>	<i>Undergraduate research</i>	<i>Internship or field experience</i>	<i>Study abroad</i>	<i>Culminating senior experience</i>
		%	%	%	%	%	%	%
As part of this experience, about how...Connect what you were learning to your other coursework	Often/ Very often	56	55	65	75	74	72	70
As part of this experience, about how...Learn something that changed the way you understand an issue or concept	Often/ Very often	55	59	63	76	76	84	64
<b>Real-world application</b>								
To what extent has this experience co...Understanding concepts in your courses or major	Quite a bit/ Very much	57	58	67	78	81	70	76
To what extent has this experience co...Applying theory to practice	Quite a bit/ Very much	53	57	59	81	81	65	74
To what extent has this experience co...Solving complex, real-world problems	Quite a bit/ Very much	51	58	59	72	80	69	67
To what extent has this experience co...Acquiring job- or work-related skills	Quite a bit/ Very much	55	59	61	75	90	65	65
To what extent has this experience co...Preparing for you plans after graduation	Quite a bit/ Very much	48	50	57	74	84	62	61
<b>Demonstration of competence</b>								
At or near the conclusion...Give a formal presentation about this experience for a class or other closed meeting at your institution	Selected	29	41	46	48	37	35	59
At or near the conclusion...Give a formal presentation in a public setting (conference paper, poster, video, performance, recital, exhibit, etc.)	Selected	12	16	25	55	20	13	30
At or near the conclusion of this exp...Write a paper or report	Selected	48	61	52	72	63	63	73
*Did [will] you receive academic credit for this experience?	Yes	80	63	61	62	67	93	91
*Overall, how would you evaluate the quality of this experience?	High quality	38	46	48	74	75	87	56

Note: An asterisk (\*) denotes item was not included in construction of theme.

## Appendix E. Criteria for High-Quality HIPs

<i>Element</i>	<i>High-Quality Threshold</i>
<i>Expectations</i>	Extent to which expectations for what activities students would do were explained at least “some,” and students challenged to do best at least 4 on a 7-point scale (“Not at all challenging” to “Very much [challenging]”).
<i>Time and Effort</i>	Students were required to spend at least “more time” compared to the typical learning experience.
<i>Interactions</i>	Students met with faculty about this experience “very often” and those meetings focused “some” on what was being learned, or met “often” and those meetings focused “quite a bit,” or met “sometimes” and those meetings focused “very much.”
<i>Diversity</i>	Students interacted with people who differ from themselves in significant ways at least “often” and “very often” found themselves in settings or circumstances that are new or unfamiliar.
<i>Feedback</i>	Students at least “often” received feedback deemed at least “quite a bit” useful from faculty or staff member, supervisor, co-worker, other student, or someone in another role.
<i>Reflect</i>	Students connected learning to coursework, major field or career goals, or societal issues at least “often.”
<i>Integrate</i>	Students discussed experience with other students in an organized setting, wrote informal pieces (blog, journal), or learned something that changed the way they understand an issue or concept at least “often.”
<i>Apply</i>	Students thought experience on average contributed “quite a bit” to understanding concepts in courses or major; applying theory to practice; solving complex, real-world problems; acquiring job- or work-related skills; and preparing for life after graduation.
<i>Demonstrate</i>	Students gave at least one formal presentation in a closed meeting, in a public setting, or students wrote a paper or report.