

#### Results of High Impact Practice Learning Community Pilot Project Fall Semesters 2015 and 2016

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#### **Executive Summary**

#### Background

There were 94 students enrolled in Marshall's High Impact Practice Learning Community (HIP-LC) Project (51 in fall 2015 and 43 in fall 2016). Each of these students was enrolled in two courses (a first year seminar [FYS] and an additional course [SOC 200, PSC 104, or CMM 103]) that shared common themes and common or aligned assignments. Please note that CMM 103 was added in fall 2016, so available for that cohort only.

All students in the HIP-LC except one were fully admitted to Marshall University. That student was provisionally admitted, but met inclusion criteria for this study, with a high school grade point average (GPA) of 3.5 and an American College Test (ACT) score of 23. Sixty-three HIP-LC participants had high school GPAs  $\geq$  3.25 with accompanying ACT scores (16 or higher) necessary for full admission to the university, while 31 were fully admitted to the university, but had high school GPAs < 3.25. The former group will hereafter be referred to as *high entrance* and the latter as *low entrance*.

Each student in a HIP-LC was matched (to the best of our ability) with a student who also was enrolled in FYS during fall 2015 or 2016, but was not in a HIP-LC. Matching variables included gender, residence (WV resident, Metro Resident, or Non-Resident), and entering academic ability (ACT [or SAT converted to ACT scale] and high school GPA). All matched controls for the *high entrance* HIP-LC participants except one were fully

admitted to Marshall University. That student was provisionally admitted, but had a high school GPA of 3.35. The student's ACT score of 16 was low, but was a fairly close match for his/her HIP-LC match, who had an ACT of 17 and high school GPA of 3.34, and was fully admitted to the university. Matching *low entrance* HIP-LC participants was more challenging. Three of their controls had high school GPAs slightly > 3.25 (3.27, 3.28, and 3.30) and a fourth control was conditionally admitted to Marshall. However, an analysis excluding these matched pairs from the analysis showed no difference in results, so we decided to leave them.

The study was designed to answer the following research questions:

- 1. Will two groups of freshmen (*high entrance* and *low entrance*) who are enrolled in HIP-LC consisting of paired courses with common themes and common or aligned assignments persist at Marshall University at higher rates than matched controls? Persistence was defined as continuing enrollment at Marshall.
- 2. Will two groups of freshmen (*high entrance* and *low entrance*) who are enrolled in HIP-LC consisting of paired courses with common themes and common or aligned assignments perform better academically, as defined by achieving significantly higher GPAs, than matched controls?
- 3. Will two groups of freshmen (*high entrance* and *low entrance*) who are enrolled in HIP-LC consisting of paired courses with common themes and common or aligned assignments perform better academically, as defined by achieving higher scores on the final exam at the end of FYS, than matched controls?
- 4. Will two groups of freshmen (*high entrance* and *low entrance*) who are enrolled in HIP-LC consisting of paired courses with common themes and common or aligned assignments perform well academically, as defined by achieving scores on authentic artifacts aligned to the traits of the University's *Integrative Thinking* learning outcome that are commensurate with those of Marshall's expectations for first year students?

#### Group Comparisons Using Matching Variables

Matching variable comparisons showed no significant differences between *high entrance* HIP-LC participants and their matched controls (n = 63) for any matching variable; however, high school GPA of *low entrance* controls (2.9) was significantly higher than that of *low entrance* HIP-LC participants (2.81), while the reserves was true for ACT scores, with HIP-LC participants scoring significantly higher (21) than matched controls (20.16). There were 31 *low entrance* matched pairs.

#### Main Findings for High Entrance Students

For high entrance matched pairs (*n* = 63), fall to first spring persistence (87.3%) was identical for HIP-LC participants and matched controls. This gap widened for fall to first fall with HIP-LC participants enrolled at a rate of 77.8% as compared to 71.4% for matched controls. The gap closed somewhat for fall to second spring with a 76.2% retention rate for HIP-LC participants and a 73% rate for their matched controls. None of these differences was statistically significant.

Mean college GPA for *high entrance* HIP-LC participants was 3.0 at the end of the fall 2017 term, while matched controls had a mean GPA of 2.98.

The FYS final exam was completed by both members of 55 of the 63 *high entrance* matched pairs. *Paired samples t-tests*, with alpha levels adjusted to control for Type I error (.025 for the traits of *Information Literacy* and .016 for the traits of *Critical Thinking* and *Communication Fluency*) found only one significant difference between HIP-LC participants and controls and that was for the *Critical Thinking* trait of *viewpoints*. Matched controls had a mean score of 2.43 as compared to 2.17 for HIP-LC participants, *t* (54), = -2.482, *p* = .016. We note, however, that mean scores for all outcomes/traits of the FYS exam were higher for *high entrance* matched controls than for the HIP-LC participants.

Authentic artifacts aligned to *Integrative Thinking* were assessed only for participants of the HIP-LC. We also note that not all students submitted artifacts and some submitted more than one. Additionally, not all artifacts aligned to each trait of *Integrative Thinking*. Numbers of artifacts assessed for each trait were 47 for *connections among disciplines*, 47 for *relations among domains of thinking*, 46 for *transfer*, and 61 for *connections to experience*. On a five-point scale ranging from 0 to 4, HIP-LC *high entrance* participants' mean scores were 1.42 for *connections among disciplines*, 1.34 for *relations among domains of thinking*, 1.24 for *transfer*, and 1.43 for *connections with experience*. We note that freshmen are expected to score between 1 and 2, so the performance of these students is what we would expect for first-semester freshmen.

#### Main Findings for Low Entrance Students

Although *Chi-Square* analyses did not reveal significant relationships between *low entrance* HIP-LC participants and matched controls in terms of persistence, we noted that, for *low entrance* matched pairs (n = 31), fall to first spring persistence (77.4%) was higher for HIP-LC participants than (61.3%) for their matched controls. The gap widened for fall to first fall persistence (58.1% for HIP-LC participants and 35.5% for matched controls), and narrowed for fall to second spring (48.4% for HIP-LC participants as compared to 38.7% for their matched controls).

Mean college GPA for *low entrance* HIP-LC participants was 2.09 at the end of the fall 2017 term, while matched controls had a mean GPA of 1.97.

The FYS final exam was completed by both members of 21 of the 31 *low entrance* matched pairs. *Paired samples t-tests*, with alpha levels adjusted to control for Type I error (.025 for the traits of *Information Literacy* and .016 for the traits of *Critical Thinking* and *Communication Fluency*) did not find significant differences in mean performance between the *low entrance* HIP-LC participants and their matched controls. However, we note that the means for the *low entrance* HIP-LC participants were higher for each outcome/trait for FYS exams than the mean performance of their matched controls.

Authentic artifacts aligned to *Integrative Thinking* were assessed only for participants of the HIP-LC. We also note that not all students submitted artifacts and some submitted more than one. Additionally, not all artifacts aligned to each trait for *Integrative Thinking*. Numbers of artifacts assessed for each trait were 10 for *connections among disciplines*, 7 for *relations among domains of thinking*, 7 for *transfer*, and 16 for

*connections to experience*. On a five-point scale ranging from 0 to 4, HIP-LC participants' mean scores were 1.7 for *connections among disciplines*, 1.71 for *relations among domains of thinking*, 1.86 for *transfer*, and 1.58 for *connections with experience*. We note that freshmen are expected to score between 1 and 2, so the performance of these students is what we would expect for first-semester freshmen.

#### Discussion

Results from the two year HIP-LC project do not show conclusive evidence that participation in a HIP-LC had a significant effect on student learning or persistence. However, trends point toward the impact (if any) being greater for students classified as *low entrance* than for those classified as *high entrance*. We note that larger percentages of *low entrance* students were enrolled at Marshall University for the first spring, first fall, and second spring following their participation in the HIP-LC than were their matched controls (first spring 77% [HIP-LC]; 61% [controls] and first fall 58% [HIP-LC]; 35.5% [controls]). While not statistically significant, we had a very small *n* (31 matched pairs) in the *low entrance* classification. That said, fall to fall persistence averaged 60% for all students in the *low entrance* classification for Marshall's fall 2015 retention cohort according to Marshall's Office of Institutional Research and Planning.

No significant differences were seen between college GPAs at the end of the fall 2017 term between participants and their controls for either *high entrance* (3.0 [HIP-LC] and 2.98 [controls]) or *low entrance* (2.09 [HIP-LC] and 1.97 [controls]) participants.

Results of FYS final exams show that, for the 21 matched *low entrance* pairs for whom we had data, the HIP-LC participants scored higher (although not significantly so) on all traits of *Information Literacy, Critical Thinking*, and *Communication Fluency*. We did not see this result for the *high entrance* participants, with the reverse being true.

Authentic assessment of artifacts aligned to *Integrative Thinking* showed that both the *low entrance* and *high entrance* students scored at levels expected of new freshmen. However, we must remain cautious about these findings given the small number of students who participated in the project and the even smaller number of students who provided usable data for analysis.

#### Conclusions

Following two years of the HIP-LC Pilot project, the evidence does not suggest that, overall, this is a cost-effective method for improving student persistence and learning at Marshall University. However, trends point to the potential positive benefit this, or programs similar to this, might have on improving the outcomes for students who have entrance abilities that place them at risk for non-completion. We suggest further study regarding targeting this type of intervention to the latter group of students.

#### HIP Study Update for Enrollment/Graduation: 9-11-2020

#### High Entrance

Year	Group	Enrolled or Graduated	Withdrawn	Totals	Percentage Graduated or Enrolled
2015	LC	22	8	30	73%
	Control	21	9	30	70%
	Total	43	17	60	72%
2016	LC	21	12	33	64%
	Control	17	16	33	52%
	Total	38	28	66	58%
2015/2016 Combined	LC	43	20	63	68%
	Control	38	25	63	60%
	Total	81	45	126	64%

#### Low Entrance

Year	Group	Enrolled or Graduated	Withdrawn	Totals	Percentage Graduated or Enrolled
2015	LC	7	14	21	33%
	Control	5	16	21	24%
	Total	12	30	42	29%
2016	LC	4	6	10	40%
	Control	4	6	10	40%
	Total	8	12	20	40%
2015/2016	LC	11	20	31	35%
Combined					
	Control	9	22	31	29%
	Total	20	42	62	32%

# Supporting Documentation

for HIP-LC Participants and Matched Controls with High School Grade Point Averages > 3.25, aka *high entrance* 



# High Impact Practice Learning Community Project for Participants with High School GPA ≥ 3.25

Fall 2015 and Fall 2016



# **Demographic Information**

Fall 2015 and Fall 2016

# **Explanation Regarding Matched Pairs**

The following slides show details about matched pairs. All participants in the HIP-LC (except one) were fully admitted to Marshall University with high school grade point averages ≥ 3.25. One HIP-LC participant was provisionally admitted, but met the inclusion criteria with a high school GPA of 3.5 and an ACT score of 23. All matched controls except one were fully admitted to Marshall University. The exception was a student also provisionally admitted, but had a high school GPA of 3.35, meeting the high school GPA inclusion criterion. The student's ACT score of 16 was low, but was a fairly close match for his/her HIP-LC match, who had an ACT of 17 and high school GPA of 3.34, and was fully admitted to the university.

Pair	Classification	Gender	Academic Ability (ACT)	High School GPA	Admission Status	Residence
14	Not Murky Middle	Female	23	3.32	Full	WV Resident
		Female	23	3.38	Full	WV Resident
15	Not Murky Middle	Male	23	3.35	Full	Non-Resident
		Male	23	3.36	Full	WV Resident
16	Not Murky Middle	Female	21	3.38	Full	Metro
		Female	21	3.29	Full	WV Resident
17	Not Murky Middle	Male	20	3.39	Full	WV Resident
		Male	20	3.44	Full	WV Resident
18	Not Murky Middle	Female	22	3.45	Full	Metro
		Female	22	3.49	Full	Metro
19	Not Murky Middle	Male	23	3.50	Full	WV Resident
		Male	23	3.39	Full	Metro
20	Not Murky Middle	Male	22	3.50	Full	WV Resident
		Male	22	3.44	Full	WV Resident
21 *	Not Murky Middle	Male	21	3.50	Full	Non-Resident
		Male	21	3.50	Full	WV Resident
22	Not Murky Middle	Male	20	3.51	Full	WV Resident
		Male	20	3.57	Full	WV Resident

Pair	Classification	Gender	Academic Ability (ACT)	High School GPA	Admission Status	Residence
23	Not Murky Middle	Female	20	3.51	Full	WV Resident
		Female	20	3.52	Full	WV Resident
24	Not Murky Middle	Female	21	3.52	Full	WV Resident
		Female	21	3.54	Full	WV Resident
25	Not Murky Middle	Male	27	3.56	Full	WV Resident
		Male	27	3.65	Full	WV Resident
26	Not Murky Middle	Female	21	3.56	Full	WV Resident
		Female	21	3.56	Full	WV Resident
27	Not Murky Middle	Male	25	3.62	Full	WV Resident
		Male	25	3.50	Full	WV Resident
28	Not Murky Middle	Female	18	3.67	Full	WV Resident
		Female	18	3.61	Full	WV Resident
29	Not Murky Middle	Female	22	3.68	Full	WV Resident
		Female	22	3.69	Full	WV Resident
30	Not Murky Middle	Female	24	3.70	Full	Metro
		Female	24	3.68	Full	WV Resident
31	Not Murky Middle	Male	22	3.71	Full	WV Resident
		Male	23	3.65	Full	WV Resident

(\* = one member of pair did not complete FYS Final Exam)

Pair	Classification	Gender	Academic Ability (ACT)	High School GPA	Admission Status	Residence
32 *	Not Murky Middle	Female	23	3.71	Full	WV Resident
		Female	23	3.69	Full	WV Resident
33	Not Murky Middle	Female	23	3.91	Full	Metro
		Female	23	3.91	Full	WV Resident
34	Not Murky Middle	Male	24	4.00	Full	WV Resident
		Male	24	4.00	Full	WV Resident
35	Not Murky Middle	Female	16	4.01	Full	WV Resident
		Female	17	4.08	Full	WV Resident
36	Not Murky Middle	Female	24	4.04	Full	WV Resident
		Female	24	4.06	Full	WV Resident
37	Not Murky Middle	Female	25	4.33	Full	WV Resident
		Female	25	4.35	Full	WV Resident
43	Not Murky Middle	Female	17	3.62	Full	WV Resident
		Female	17	3.60	Full	WV Resident
44	Not Murky Middle	Female	20	3.46	Full	WV Resident
		Female	20	3.46	Full	WV Resident
45	Not Murky Middle	Male	23	3.53	Full	WV Resident
		Male	23	3.63	Full	WV Resident
47	Not Murky Middle	Male	21	3.83	Full	WV Resident
		Male	21	3.77	Full	WV Resident

### Matched Pair Detail: First member of each pair part of LC: Fall 2015 (\* = one member of pair did not complete FYS Final Exam)

Pair	Classification	Gender	Academic Ability (ACT)	High School GPA	Admission Status	Residence
50	Not Murky Middle	Female	24	3.60	Full	WV Resident
		Female	24	3.62	Full	WV Resident
51	Not Murky Middle	Male	26	3.50	Full	WV Resident
		Male	26	3.51	Full	WV Resident

Pair	Classification	Gender	Academic Ability (ACT)	High School GPA	Admission Status	Residence
1	Not Murky Middle	Male	18	3.80	Full	WV Resident
		Male	18	3.81	Full	WV Resident
2	Not Murky Middle	Female	21	3.46	Full	WV Resident
		Female	21	3.46	Full	Metro
3	Not Murky Middle	Female	21	3.35	Full	WV Resident
		Female	22	3.35	Full	WV Resident
4	Not Murky Middle	Male	23	3.57	Full	WV Resident
		Male	21	3.57	Full	Non-Resident
5	Not Murky Middle	Female	24	3.69	Full	WV Resident
		Female	23	3.69	Full	WV Resident
6	Not Murky Middle	Female	22	3.80	Full	WV Resident
		Female	21	3.81	Full	WV Resident
7	Not Murky Middle	Female	19	3.35	Full	WV Resident
		Female	18	3.37	Full	WV Resident
8	Not Murky Middle	Female	18	3.48	Full	WV Resident
		Female	18	3.48	Full	Non-Resident
9	Not Murky Middle	Male	21	4.13	Full	WV Resident
		Female	21	4.13	Full	WV Resident

Pair	Classific19ation	Gender	Academic Ability (ACT)	High School GPA	Admission Status	Residence
10	Not Murky Middle	Female	22	4.04	Full	WV Resident
		Female	22	4.03	Full	WV Resident
11	Not Murky Middle	Female	24	3.56	Full	WV Resident
		Female	24	3.56	Full	WV Resident
12*	Not Murky Middle	Male	23	3.50	Provisional	Metro
		Male	22	3.50	Full	WV Resident
13	Not Murky Middle	Male	17	3.62	Full	WV Resident
		Male	18	3.62	Full	WV Resident
14	Not Murky Middle	Female	26	4.05	Full	WV Resident
		Female	25	4.06	Full	WV Resident
15	Not Murky Middle	Female	17	3.34	Full	WV Resident
		Female	16	3.35	Provisional	Non-Resident
16	Not Murky Middle	Male	22	3.65	Full	WV Resident
		Male	22	3.66	Full	Metro
17	Not Murky Middle	Female	20	3.66	Full	Non-Resident
		Female	21	3.66	Full	WV Resident
18*	Not Murky Middle	Female	19	3.32	Full	Metro
		Female	19	3.32	Full	WV Resident

Pair	Classification	Gender	Academic Ability (ACT)	High School GPA	Admission Status	Residence
19	Not Murky Middle	Female	23	3.50	Full	WV Resident
		Female	23	3.50	Full	WV Resident
20	Not Murky Middle	Female	18	3.25	Full	WV Resident
		Female	19	3.25	Full	WV Resident
21	Not Murky Middle	Male	19	3.32	Full	WV Resident
		Male	20	3.31	Full	WV Resident
22*	Not Murky Middle	Male	16	3.31	Full	WV Resident
		Male	18	3.31	Full	WV Resident
23	Not Murky Middle	Female	23	4.04	Full	WV Resident
		Female	24	4.04	Full	WV Resident
24	Not Murky Middle	Male	23	3.71	Full	WV Resident
		Male	23	3.71	Full	WV Resident
25	Not Murky Middle	Female	22	4.08	Full	WV Resident
		Female	25	4.08	Full	WV Resident
26	Not Murky Middle	Female	23	3.30	Full	WV Resident
		Female	22	3.30	Full	WV Resident
27	Not Murky Middle	Female	28	3.85	Full	WV Resident
		Female	26	3.85	Full	Non-Resident

Pair	Classification	Gender	Academic Ability (ACT)	High School GPA	Admission Status	Residence
28*	Not Murky Middle	Female	19	3.30	Full	WV Resident
		Female	20	3.31	Full	WV Resident
29	Not Murky Middle	Female	23	3.40	Full	WV Resident
		Female	23	3.41	Full	Metro
30	Not Murky Middle	Female	23	3.70	Full	WV Resident
		Female	24	3.70	Full	WV Resident
31	Not Murky Middle	Male	27	4.61	Full	WV Resident
		Female	27	4.64	Full	WV Resident
32*	Not Murky Middle	Male	22	3.91	Full	WV Resident
		Male	23	3.91	Full	WV Resident
33*	Not Murky Middle	Female	18	3.50	Full	WV Resident
		Female	19	3.50	Full	WV Resident

Entering Academic Ability (ACT and High School GPA) Comparisons for Matched Pairs Learning Community (LC) and Control

Paired Samples t-tests showed no significant difference between LC participants and controls

*n* = 63 matched pairs

Paired Samples t-tests showed no significant difference between LC participants and controls

#### *n* = 63 matched pairs



### **Gender Comparisons for Matched Pairs**

Learning Community (LC) and Control Chi Squares were not significant

*n* = 63 matched pairs





Residence





# **Student Persistence**

High Impact Practice Project Fall 2015 and Fall 2016



# **First Spring Persistence**

(Spring 2016 for fall 2015 cohort and spring 2017 for fall 2016 cohort) Enrollment Status

Enrollment status was defined as completing some coursework with grades other than "W." Students were initially enrolled, but dropped all classes by the end of the spring semester, were not considered "enrolled."

High Impact Practice Project Fall 2015 and Fall 2016

## First Spring (2016 or 2017) Enrollment Status

#### Learning Community (LC) and Matched Controls

Chi Squares were not significant

Please note that one HIP-LC participant recorded all grades of "F" during the spring semester.

#### *n* = 63 matched pairs



Spring 2016 or 2017 Enrollment



# First Fall Persistence

(Fall 2016 for fall 2015 cohort and fall 2017 for fall 2016 cohort) Enrollment Status

Enrollment status was defined as completing some coursework with grades other than "W." Students who were initially enrolled, but dropped all classes by the end of the semester, were not considered "enrolled."

High Impact Practice Project Fall 2015 and Fall 2016

### First Fall (2016 or 2017) Enrollment Status

#### Learning Community (LC) and Matched Controls

Chi Squares were not significant

Please note that one HIP-LC participant recorded all grades of "F" during the fall semester.

#### *n* = 63 matched pairs



Fall 2016 or 2017 Enrollment



# **Second Spring Persistence**

(Spring 2017 for fall 2015 cohort and spring 2018 for fall 2016 cohort) Enrollment Status

Enrollment status was defined as completing some coursework with grades other than "W" for spring 2017. Students who were initially enrolled, but dropped all classes by the end of the semester, were not considered "enrolled." For spring 2018, all students actively enrolled as of February 2018 were considered "enrolled."

High Impact Practice Project Fall 2015

### Second Spring (2017 or 2018) Enrollment Status

Learning Community (LC) and Matched Controls Chi Squares were not significant

#### *n* = 63 matched pairs



Spring 2017 or 2018 Enrollment



# **Direct Assessments**

**Student Learning: GPA** 

Fall 2015 and Fall 2016



# **Cumulative GPA**

(at end of fall 2017 term)

High Impact Practice Project Fall 2015 and Fall 2016

### Cumulative College GPA at End of Fall 2017 Term

Learning Community (LC) and Matched Controls Paired Samples t-tests showed that mean differences were not significant.

#### *n* = 63 matched pairs

Cumulative GPA at end of fall 2017 term



LC Control



# **Direct Assessments**

FYS Final Exam Performance: High Impact Practice Project

Fall 2015 and Fall 2016

Please note that at least one participant of eight pairs did not complete the FYS final exam. Therefore, we have results for 55 of the 63 pairs.



# FYS Final Exam

High Impact Practice Project: Fall 2015 and Fall 2016 Demographic Comparisons

#### Entering Academic Ability (ACT and High School GPA) Comparisons for Matched Pairs with FYS Scores Learning Community (LC) and Control

Paired Samples t-tests showed no significant differences between LC participants and their matched controls

*n* = 55 matched pairs

Paired Samples t-tests showed no significant differences between LC participants and their matched controls

#### *n* = 55 matched pairs



### Gender Comparisons for Matched Pairs with FYS Scores

Learning Community (LC) and Control

Chi Squares were not significant

*n* = 55 matched pairs



*n* = 55 matched pairs

100% 2 4 4 90% 4 80% 70% 60% 50% 49 47 40% 30% 20% 10% 0% LC Control ■ WV ■ Metro ■ Other

Residence



# FYS Final Exam

High Impact Practice Project: Fall 2015 and Fall 2016 Performance Comparisons

## **Comparison of FYS Scores**

### Learning Community (LC) and Matched Controls

Differences between LC and Controls were not significantly different, except for viewpoints, where the difference barely reached significance, t(54) = -2.482, p = .016.

#### *n* = 55 matched pairs

#### *n* = 55 matched pairs





# **Direct Assessments**

**High Impact Practice Project:** 

#### GEAR (2015) Blackboard (2016) Artifact Analysis for Integrative Thinking

We did not have a control group for *Integrative Thinking* analysis, not all students in the High Impact Practice Projects in 2015 and 2016 uploaded artifacts, and those who did uploaded anywhere from one to three artifacts. There were a total of 90 artifacts uploaded and assessed. However, every artifact did not align to every trait. Numbers upon which means for each traits were based are given in the results.

## Integrative Thinking

Pairwise comparisons showed no significant differences among mean scores on traits.

Mean Performance on Integrative Thinking



# Supporting Documentation

for HIP-LC Participants and Matched Controls with High School Grade Point Averages < 3.25, aka *low entrance* 



# High Impact Practice Learning Community Project for Participants with High School GPA < 3.25

Fall 2015 and Fall 2016



# **Demographic Information**

Fall 2015 and Fall 2016

# **Explanation Regarding Matched Pairs**

- The following slides show details about matched pairs. All participants in the HIP-LC were fully admitted to Marshall University with high school grade point averages < 3.25. Due to the difficulty in matching controls, which was done based on gender, entering academic ability (on ACT scale), high school grade point average, and residence, three controls had high school grade point averages slightly > 3.25 (3.27, 3.28, and 3.30). One additional control was conditionally admitted to Marshall.
- We decided to leave all matched pairs in the study because an analysis eliminating these four controls mentioned above and their matched HIP-LC participants made no difference in the results.

Pair	Classification	Gender	Academic Ability (ACT)	High School GPA	Admission Status	Residence
1 *	Murky Middle	Male	22	2.30	Full	Non-Resident
		Male	18	2.68	Conditional	Non-Resident
2	2 Murky Middle	Female	19	2.37	Full	Non-Resident
		Female	19	2.76	Full	Non-Resident
3	3 Murky Middle	Male	21	2.70	Full	WV Resident
		Male	21	3.00	Full	WV Resident
4	4 Murky Middle	Female	21	2.71	Full	WV Resident
		Female	19	2.78	Full	WV Resident
5 *	5 * Murky Middle	Female	15	2.72	Full	WV Resident
		Female	17	2.85	Full	WV Resident
6	Murky Middle	Male	25	2.81	Full	WV Resident
		Male	22	3.20	Full	Metro
7	Murky Middle	Male	26	2.82	Full	Non-Resident
		Male	26	3.30	Full	WV Resident
8	Murky Middle	Male	21	2.90	Full	Non-Resident
		Male	21	2.95	Full	Metro
9	Murky Middle	Female	21	2.91	Full	WV Resident
	Female	20	2.85	Full	WV Resident	

Pair	Classification	Gender	Academic Ability (ACT)	High School GPA	Admission Status	Residence
10 *	Murky Middle	Male	17	2.93	Full	Non-Resident
		Male	17	3.00	Full	Non-Resident
11 *	Murky Middle	Female	22	3.00	Full	Non-Resident
		Female	22	3.22	Full	Metro
12	Murky Middle	Male	22	3.10	Full	WV Resident
		Male	22	3.04	Full	WV Resident
13	Murky Middle	Male	23	3.24	Full	WV Resident
		Male	23	3.27	Full	WV Resident
38 *	Murky Middle	Female	17	3.14	Full	Non-Resident
		Female	17	3.15	Full	Non-Resident
39 *	Murky Middle	Male	19	2.05	Full	WV Resident
		Male	19	2.00	Full	WV Resident
40 *	Murky Middle	Male	22	2.95	Full	WV Resident
		Male	22	2.76	Full	WV Resident
41	Murky Middle	Male	19	2.50	Full	WV Resident
		Male	19	2.61	Full	WV Resident
42	Murky Middle	Male	20	2.33	Full	Non-Resident
		Male	20	2.35	Full	Non-Resident

Pair	Classification	Gender	Academic Ability (ACT)	High School GPA	Admission Status	Residence
46 *	Murky Middle	Male	22	3.24	Full	WV Resident
		Male	22	3.28	Full	WV Resident
48	Murky Middle	Female	20	2.47	Full	Non-Resident
		Female	20	2.55	Full	Non-Resident
49	Murky Middle	Female	19	2.78	Full	WV Resident
		Female	19	2.82	Full	WV Resident

(\* = one member of pair did not complete FYS Final Exam)

Pair	Classification	Gender	Academic Ability (ACT)	High School GPA	Admission Status	Residence
34	Murky Middle	М	21	3.11	Full	Non-resident
		Μ	18	3.12	Full	WV Resident
35	Murky Middle	F	20	2.79	Full	WV Resident
		F	19	2.79	Full	Non-resident
36	Murky Middle	F	22	2.6	Full	WV Resident
		F	20	2.64	Full	Non-resident
37	Murky Middle	Μ	27	3.2	Full	WV Resident
		Μ	25	3.21	Full	WV Resident
38	Murky Middle	М	18	2.62	Full	WV Resident
		Μ	18	2.62	Full	WV Resident
39*	Murky Middle	F	20	3.09	Full	WV Resident
		F	19	3.09	Full	WV Resident
40	Murky Middle	Μ	33	3.06	Full	WV Resident
		Μ	25	3.09	Full	WV Resident
41*	Murky Middle	F	20	2.89	Full	WV Resident
		F	19	2.89	Full	WV Resident
42	Murky Middle	F	18	3.13	Full	WV Resident
		F	18	3.13	Full	WV Resident
43	Murky Middle	F	19	2.77	Full	Non-resident
		F	19	2.78	Full	Non-resident

#### Entering Academic Ability (ACT and High School GPA) Comparisons for Matched Pairs Learning Community (LC) and Control

Paired Samples t-tests showed a significantly higher mean ACT score for LC participants than for matched controls

*n* = 31 matched pairs

Paired Samples t-tests showed a significantly higher matched mean high school GPAs for matched controls than for LC participants

#### *n* = 31 matched pairs



### **Gender Comparisons for Matched Pairs**

Learning Community (LC) and Control Chi Squares were not significant

*n* = 31 matched pairs





Residence





# **Student Persistence**

High Impact Practice Project Fall 2015 and Fall 2016



# **First Spring Persistence**

(Spring 2016 for fall 2015 cohort and spring 2017 for fall 2016 cohort) Enrollment Status

Enrollment status was defined as completing some coursework with grades other than "W." Students who were initially enrolled, but dropped all classes by the end of the semester, were not considered "enrolled."

High Impact Practice Project

Fall 2015 and Fall 2016

## First Spring (2016 or 2017) Enrollment Status

#### Learning Community (LC) and Matched Controls

Chi Squares were not significant

Please note that two HIP-LC participants and one control recorded all grades of "F" during the spring semester.

#### *n* = 31 matched pairs



Spring 2016 or 2017 Enrollment



# First Fall Persistence

(Fall 2016 for fall 2015 cohort and fall 2017 for fall 2016 cohort) Enrollment Status

Enrollment status was defined as completing some coursework with grades other than "W." Students who were initially enrolled, but dropped all classes by the end of the semester, were not considered "enrolled."

High Impact Practice Project Fall 2015 and Fall 2016

### First Fall (2016 or 2017) Enrollment Status

Learning Community (LC) and Matched Controls

Chi Squares were not significant

Please note that one control recorded all grades of "F" or "W" during the fall semester.

#### *n* = 31 matched pairs



Fall 2016 or Fall 2017 Enrollment



# Second Spring Persistence

(Spring 2017 for fall 2015 cohort and spring 2018 for fall 2016 cohort) Enrollment Status

Enrollment status was defined as completing some coursework with grades other than "W." Students who were initially enrolled, but dropped all classes by the end of the semester, were not considered "enrolled." For the fall 2016 cohort, enrollment consisted of being enrolled in February 2018.

**High Impact Practice Project** 

Fall 2015 and 2016

## Second Spring (2017 or 2018) Enrollment Status

Learning Community (LC) and Matched Controls Chi Squares were not significant

#### *n* = 31 matched pairs



Spring 2017 or 2018 Enrollment



# **Direct Assessments**

**Student Learning: GPA** 

Fall 2015 and Fall 2016



# **Cumulative GPA**

(at end of fall 2017 term)

High Impact Practice Project Fall 2015 and Fall 2016

### Cumulative College GPA at End of Fall 2017 Term

Learning Community (LC) and Matched Controls Paired Samples t-tests showed that mean differences were not significant.

#### *n* = 31 matched pairs

Cumulative GPA as of December 2017





# **Direct Assessments**

FYS Final Exam Performance: High Impact Practice Project

Fall 2015 and Fall 2016

Please note that at least one participant of ten pairs did not complete the FYS final exam. Therefore, we have results for 21 of the 31 pairs.



# FYS Final Exam

High Impact Practice Project: Fall 2015 and Fall 2016 Demographic Comparisons

#### Entering Academic Ability (ACT and High School GPA) Comparisons for Matched Pairs with FYS Scores Learning Community (LC) and Control



### Gender Comparisons for Matched Pairs with FYS Scores

Learning Community (LC) and Control

Chi Squares were not significant

*n* = 21 matched pairs



*n* = 21 matched pairs

Residence

100% 90% 6 7 80% 70% 2 0 60% 50% 40% 14 13 30% 20% 10% 0% LC Control ■ WV ■ Metro ■ Other



# FYS Final Exam

High Impact Practice Project: Fall 2015 and Fall 2016 Performance Comparisons

### **Comparison of FYS Scores** Learning Community (LC) and Matched Controls Differences between LC and Controls were not significantly different

#### *n* = 21 matched pairs

#### *n* = 21 matched pairs



**Communication Fluency** 





# **Direct Assessments**

**High Impact Practice Project:** 

#### GEAR (2015) Blackboard (2016) Artifact Analysis for Integrative Thinking

We did not have a control group for *Integrative Thinking* analysis, not all students in the High Impact Practice Projects in 2015 and 2016 uploaded artifacts, and those who did uploaded anywhere from one to three artifacts. There were a total of 21 artifacts uploaded and assessed. However, every artifact did not align to every trait. Numbers upon which means for each traits were based are given in the results.

## Integrative Thinking

Pairwise comparisons showed no significant differences among mean scores on traits.

Mean Performance on Integrative Thinking

