



Exploring Integrative Learning within Residential Learning Communities

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Year One STORY
INTEGRATIVE LEARNING
introduction
purpose of the study
research question(s)



PATH TO INTEGRATIVE LEARNING
lit review, AAC&U,
pre/post survey, assignment



FUTURE STEPS
findings, data, conclusion

INTRO • Multi-Institutional Study



Residential Learning Communities as a High-Impact Practice:

- Three-summer research seminar
- Facilitates multi-institutional research on types of Residential Learning Communities (RLCs)
- Projects use mixed-methods approach to conduct research

Our Research Study:

- Established collaboration and **integrative learning** themes at all 6 participating universities
- AAC&U Integrative Learning rubric
- Focus of this presentation - The integrative learning component of this study

Center for Engaged Learning

Research Questions

RESEARCH QUESTION(S)

- * What is the relationship between academic and student affairs collaboration and the practice of integrative learning in Residential Learning Communities (RLCs)?
- * How is collaboration in RLCs between academic and student affairs defined?
- * Which aspects of collaboration between academic and student affairs...
- * How can we measure students' practice of integrative learning in RLCs?

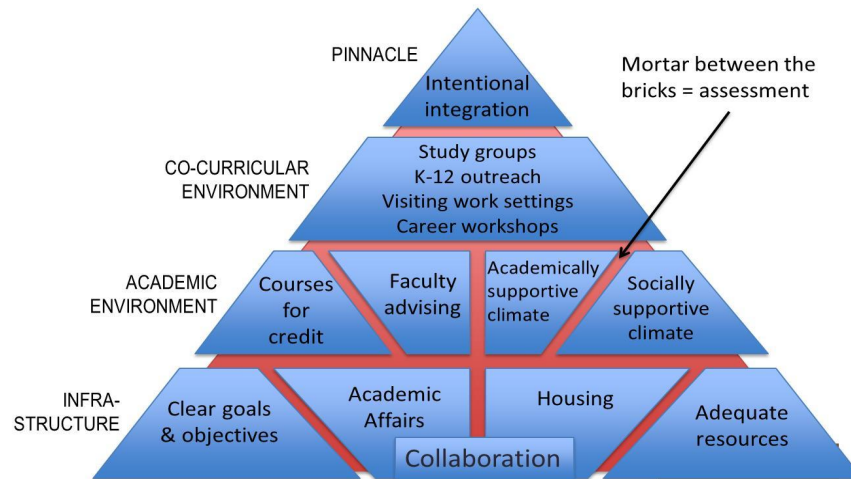
METHODOLOGY & DATA ANALYSIS: INTEGRATIVE LEARNING

- * Administered an Integrative Learning Pretest (beginning of fall) and Post test (end of spring) at each campus
 - ↳ Questions connected to our adapted AAC&U Value Rubric for student work (Experience, Disciplines/Courses, Self, Transfer)
 - ↳ Validity: tested @ Cal Poly, 100 students
 - ↳ Reliability: Cronbach's Alpha - 0.843
 - ↳ Analysis: (see our descriptive for initial results). Combined and assigned question codes for SPSS processing. Possible stat analysis includes:
 - MANCOVA
 - Correlation between self-reporting and academic performance
 - Paired Samples T-Test
 - Principles Components Analysis? Factor Analysis?
 - Is the data normally distributed - if not, non-parametric tests
 - Descriptive Statistics
- * Evaluating Student Work
 - ↳ Established clear learning outcomes
 - ↳ Adapted AAC&U VALUE Rubric
 - ↳ Established integrative assignment criteria
 - written assignment w/ detailed instructions
 - integrates course content from at least 2 courses in RLC
 - Assess interplay between curriculum + co-curriculum
 - Assigned near conclusion of spring semester + submitted electronically
 - ↳ NORMING PROCESS

Is there a relationship between Academic & Student Affairs collaboration and the practice of integrative learning in RLCs?

- How is collaboration in RLCs between academic and student affairs defined?
- Which elements of collaboration between academic and student affairs foster the practice of integrative learning?
- How can we measure students' practice of integrative learning in RLCs?
- Is there a relationship between student self-reported gains or losses in integrative learning and direct measures of integrative learning?
- Do student self-reported gains or losses in integrative learning predict direct measures of integrative learning?

Background of the Research Problem



The BPM for LLCs. Reprinted from *Living-Learning Communities That Work: A Research-Based Model for Design, Delivery, and Assessment* (p. 18), by K. K. Inkelas, J. E. Jessup-Anger, M. Benjamin, & M. R. Wawrzynski, 2018, Sterling, VA: Stylus. Copyright 2018 by Stylus Publishing, LLC.

For the purposes of this study, residential learning communities are defined as a residential, educational approach that involves the integration of engaged curricular and co-curricular learning and emphasizes relationship and community building among faculty and/or staff and a cohort of students in a rich learning environment. This educational approach may come in different forms, but typically involves/incorporates/includes at least one of the following:

- A curricular structure characterized by a cohort of students participating in an intentionally designed integrative study of an issue or theme through connected courses, experiences, and resources while living together.
- A community of learners participating in a learning community that intentionally integrates learning through curricular and co-curricular education in a residential experience.

LITERATURE • Integrative Learning

- What is integrative learning? (Barber, 2012)
- Why integrative learning? (DeZure et al., 2005; Inkelas & Soldner, 2011; Newell, 2010)
- Integrative vs. interdisciplinary learning (Boix Mansilla, 2008; Booth et al., 2009)
- RLCs and integrative learning (Klein, 2005; Mahoney & Schamber, 2011)
- Assessment (AAC&U, 2009)

For the purposes of this study integrative learning is defined as an understanding and a disposition that a student builds across the curriculum and co-curriculum, from making simple connections among ideas and experiences to synthesizing and transferring learning to new, complex situations within and beyond the campus (AAC&U, 2009).

Theoretical Framework and Significance of the Study

- Astin's (1984) theory of student involvement requires active participation on the part of the student and on the learning environment promoting this active participation.
- There is an abundance of research on residential learning communities and on integrative learning, independent of one another.
- Does the residential learning community contribute to the academic growth - particularly the integrative learning - of college students?
- Can we begin to test components of the Best Practices Model (BPM) beginning with an "Academically Supportive Climate?"

Research Design

- Quasi-experimental, pretest-posttest nonequivalent group design
- Participants were selected based on their enrollment in residential learning communities at one of six, four-year, accredited institutions
- Institutions represented included:
 - University of Central Oklahoma - large, regional, public in midwest
 - University of San Diego - mid-size, private, Catholic, liberal arts institution in the western region
 - Loyola University Maryland - mid-size, private, Jesuit, liberal arts institution in the Mid-Atlantic
 - UNC Greensboro - mid-size, research intensive, public institution in the southeast
 - Cal Poly San Luis Obispo - large, public, polytechnic institution that is part of CSU system in the western region
 - Cabrini University - small, private, Catholic, liberal arts institution in the Mid-Atlantic

Sources of Data

- Integrative Learning Pre-Survey
 - Administered in August/September of 2018
- Integrative Learning Post-Survey
 - Administered in April/May of 2019
- Evaluation of Student Work
 - Common integrative learning assignment offered to a series of participants within the participant pool.
 - Submitted at the conclusion of the academic year as a component of a RLC course or as a residential expectation.

INSTRUMENT ● Integrative Learning Survey

Integrative Learning Pre- and Post-Survey

(Designed to assess student perception)

1. Original survey piloted AY '17-'18 - 21 five-point Likert Scale items on pre- and post-survey instrument created based on language used in AAC&U's Integrative Learning VALUE Rubric.
2. Revised survey implemented AY '18-'19 - 24 five-point Likert Scale items on pre-survey and 27 five-point Likert Scale items on post-survey.
3. Survey assessed 4 categorical values:
 - 1) Reflection and Self-Assessment
 - 2) Connections to Experience
 - 3) Connections to Discipline
 - 4) Transfer

Instrument • Validity & Reliability

Integrative Survey Validity and Reliability

- Validated the Original Survey at Cal Poly – 140+ students
- Reliability – Principal Component Analysis

Item and Reliability Statistics – Connections to Experience Categorical Value

Item Statistics			
	Mean	Std. Deviation	N
Q1	3.21	1.05	126
Q2	3.66	1.02	126
Q3	3.75	1.02	126
Q4	3.54	1.08	126
Q5	3.42	1.09	126
Q13	4.37	.845	126

Reliability Statistics	
Chronbach's Alpha	N of Items
.789	6

Reliability Statistics

Reflection & Self-Assessment

Connections to Discipline

Transfer

Chronbach's Alpha

N of Items

.811

4

Chronbach's Alpha

N of Items

.791

3

Chronbach's Alpha

N of Items

.765

4

Instrument • Principal Components Analysis

Principal Component Analysis on the Integrative Learning Survey Instrument

Questions	Components				
	1	2	3	4	5
Q1			.750		
Q2			.696		
Q3	.409		.465		
Q4	.507		.578		
Q5	.403		.514		
Q6	.620		.414		
Q7	.666				
Q8	.674				
Q9				.767	
Q10				.839	
Q11	.554			.628	
Q12	.642	.387			
Q13		.398	.519		
Q16					.779
Q17					.736
Q18		.655			
Q19		.757			
Q20	.369	.724			
Q21		.782			

METHODOLOGY ● Writing Assignment

- **Integrative Learning Writing Assignment**
(assessing student performance)
 - Pilot year – Used common evaluative criteria but assignment varied across institutions
 - Year 2 – Developed common assignment to be used across all 6 institutions that was designed to address **four of the learning outcomes** outlined in **AAC&U's Integrative Learning VALUE rubric**:
 - 1) **Reflection and Self-Assessment**
 - 2) **Connections to Experience**
 - 3) **Connections to Discipline**
 - 4) **Transfer**
 - Norming of AAC&U's Integrative Learning VALUE rubric amongst the research team on this assignment from upper-class students at two different institutions represented in this study
 - Assessing whether a correlation exists between student perception and student performance

Sample Selection

- Completion of the Pre-Survey
 - 2,012 responses
 - 7% Cabrini; 23% Cal Poly; 17% LUM; 0% UCO; 3% UNCG; 50% USD
- Completion of the Post-Survey
 - 1,091 responses
 - 12% Cabrini; 9% Cal Poly; 21% LUM; 0 % UCO; 2% UNCG; 56% USD
- Completion of both the Pre- and Post-Survey
 - 849 responses
 - 14% Cabrini; 12% Cal Poly; 16% LUM; 0 % UCO; 1% UNCG; 57% USD
- Completion of the Integrative Learning Assignment
 - 351 responses
 - 4.3% Cabrini; 0.5% Cal Poly; 66.7% LUM; 0.9. % UCO; 27.6% UNCG; 0% USD

Methods of Data Analysis

- Paired Samples t Test
 - Compare the means of pre-survey and post-survey responses within each group of participants.
- Pearson Correlation Coefficient
 - Determine if a relationship exists between student perception and student performance as it pertains to integrative learning practices.
- Regression Analysis
 - If a relationship exists between perception and performance, to determine if one influences the other.

FINDINGS

Paired Samples t Test

Categorical Value	Mean and Std. Deviation	df	t	Sig. (2-tailed)
Reflection and Self-Assessment	M = 1.09156 SD = 8.82744	840	3.586	.000
Connections to Experience	M = 1.20571 SD = 7.25336	840	4.821	.000
Connections to Disciplines/Courses	M = .34867 SD = 3.46953	841	3.000	.003
Transfer	M = 1.15614 SD = 5.47358	838	6.118	.000

FINDINGS

- There was a statistically significant growth in student perception pertaining to their integrative learning practices across all four categorical values.
- Difference in means per categorical value:
 - Reflection and Self Assessment - 30.62 (Pre) to 29.53 (Post)
 - Connections to Experience - 29.27 (Pre) to 28.07 (Post)
 - Connections to Disciplines - 9.42 (Pre) to 9.07 (Post)
 - Transfer - 18.22 (Pre) to 17.06 (Post)

Discussion

- Statistical significance but not practical significance
- Mean of participant responses across all four categorical values decreased from pre- to post-survey
- Must consider inflation of pre-survey responses - is this an example of participants unconsciously inflating their skill sets or a lack of awareness of what integrative learning truly entails?
- Does that academic year educate students on how learning is integrated across contexts and as a result, post-survey responses decrease yet are accurate?

Limitations

- Generalizations within institutions
- Sample sizes at institutions varied significantly
- Student self-assessment
- Participation selection bias
- Doesn't tell us the "how"
- As a result of...
- Only examines the learning community program at six institutions
- Each learning community program is different and, as a result, has the potential to skew data
- The quantitative research method used in this study limited the findings to the research questions that the researchers chose to test and measure

CONCLUSION • Next Steps

- Run separate principal component analyses on the larger pre-survey data set and the larger post-survey data set to evaluate if the clustering of questions are accurate
- Evaluate survey questions to eliminate the possibility of perception inflation
- Run paired samples t tests per institution
- Explore whether or not a correlation exists between perception and performance for those participants who completed the pre- and post-survey and submitted their integrative assignment.
- Re-run validity and reliability of this survey
- Determine whether or not we can link this portion of our study with the collaboration portion of our study to answer the larger research question posed at the start of the CEL Research Seminar.

RLC COLLABORATION defined
and instrument created

INTEGRATED LEARNING
focus

**Correlation b/w Academic
Affairs & Student Affairs
COLLABORATION &
INTEGRATED LEARNING**



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THANK YOU - Questions?