



# Research Update: A Mixed -Method Approach to Evaluating Themed Learning Communities

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**Themed Learning Communities (TLC Retreat)**

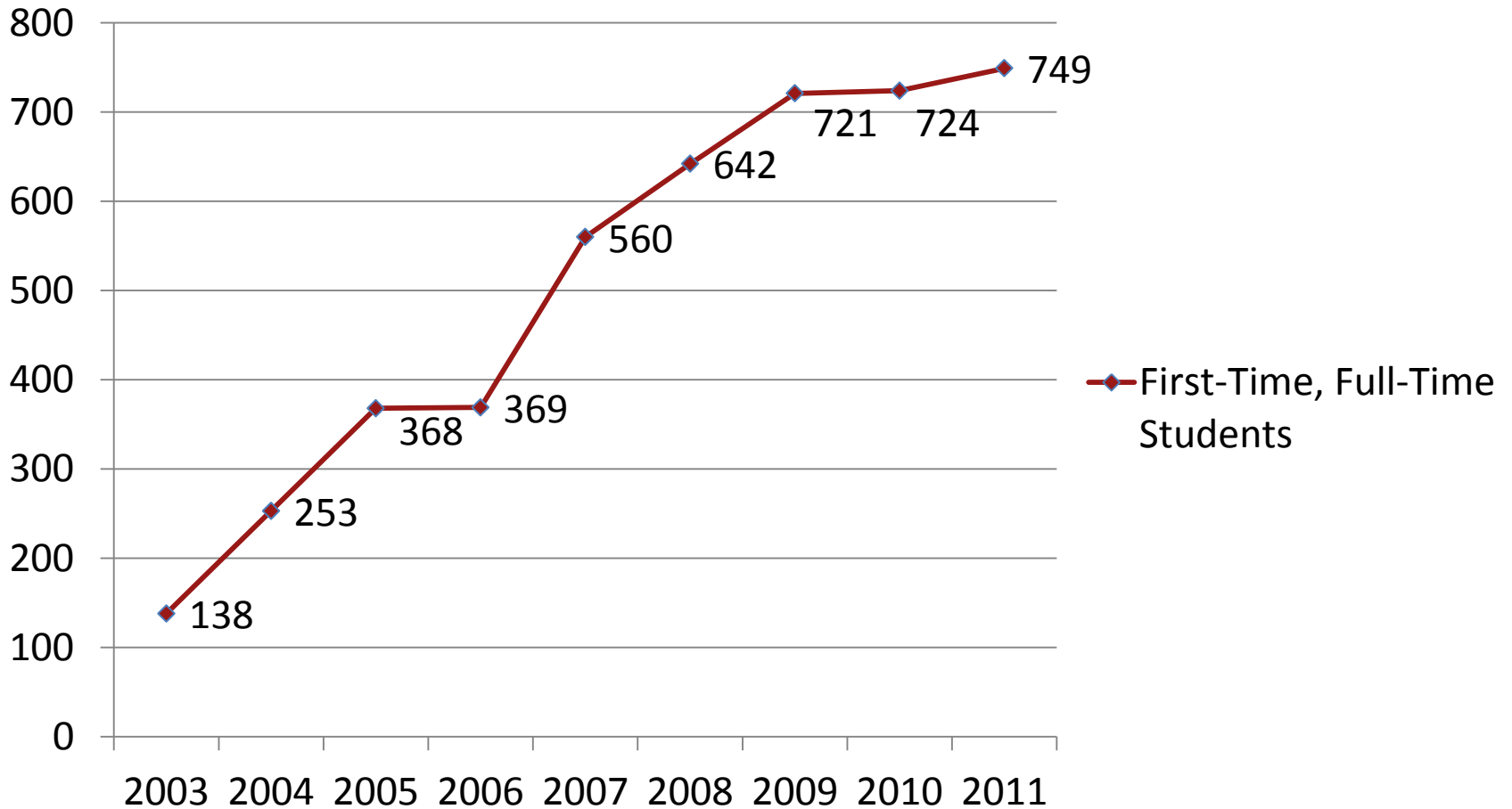
**March 23, 2012**

**Indianapolis, Indiana**

# Presentation Overview

- Methods
- Results
  - Retention & Graduation Rates
  - Grade Point Averages
  - Student Engagement and Learning Integration
  - Satisfaction & Self-Reported Learning Gains
  - Qualitative Responses
- Implications & Next Steps

# TLC Program Growth



# Program Growth

- Fall 2010
  - 724 students participated in the TLC program.
  - 32 sections offered.
- Fall 2011
  - 749 participated in the TLC program.
  - 37 sections offered.

# Assessment Methods

- Employ Mixed-Method designs using qualitative and quantitative methods.
- Attempt to understand how TLCs influence students' success levels (e.g., retention rates, GPAs).
- Administer end-of-course questionnaires (designed to provide information on students' perceptions of course benefits, learning outcomes, satisfaction levels, and why they decided to enroll).
- Conduct focus groups and individual interviews.
- Collect direct measures of student learning (e.g., Integration and Application of Knowledge embedded course assessment as part of the 2012 Reaccreditation efforts).

# Mixed-Method Approaches

- Allows researchers to:
  - Triangulate findings from multiple sources.
  - Converge or corroborate findings.
  - Strengthen the internal validity of the studies.
  - Create elaborated understandings of complex constructs such as “engagement” or “integrative learning.”

# National Literature

- Learning communities have been advocated as effective interventions for enhancing:
  - Student Retention (Tinto, 2003)
  - Engagement levels (Yancy, Sutton-Haywood, Hermitte, Dawkins, Rainey, and Parker, 2008; Zhao and Kuh, 2004),
  - Student learning and academic success (Hegler, 2004; Henscheild, 2004; Kuh, 2008; Stassen 2003),
  - Opportunities for service learning (Oates and Leavitt, 2003),
  - Critical thinking and integrative learning (Lardner and Malnarich, 2008, 2008/2009, 2009).

# Integrative Learning and Thinking

- “an approach that highlights the importance of addressing real-world issues relevant to students’ life experiences and interests” (Hinckley, 2010).
- “connecting skills and knowledge from multiple sources and experiences; applying theory to practice in various settings; utilizing diverse and even contradictory points of view; and, understanding issues and positions contextually.” (A Statement on Integrative Learning, AACU, 2004)
- “...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 situation within and beyond the campus” (AACU VALUE Rubric, 2007).



# TLCs and Retention

*“While improved retention is a welcome consequence of learning-community work, it has never been its aim.*

*In the push to improve student retention, it is easy to overlook what research tells us: Students persist in their studies if the learning they experience is meaningful, deeply engaging, and relevant to their lives” (Lardner & Malnarich, 2008).*

# TLC Participation and Academic Success Outcomes (2010)

	First Year GPA	% Below 2.0 First-Year GPA	One-Year Retention Rate*
TLC	<b>2.78</b>	<b>17%</b>	<b>79%</b>
Non-Participants	<b>2.63</b>	<b>24%</b>	<b>71%</b>
Overall	2.67	22%	73%

Note 1: Missing cases were excluded.

Note 2: Bolded items are statistically significant based on an independent samples t-test or chi-square test results ( $p < .05$ ).

\* Retention rate based on IUPUI Indianapolis only (includes all degree seeking – Bachelors, Associates, and Certificates).

# Logistic Regression Predicting One Year Retention

	Variable	B	SE	Odds Ratio	95% CI	Wald Statistic	p
Step 1	Z H.S GPA	.53	.06	1.70	[1.52, 1.92]	79.15	.000
	Z SAT Score	.10	.06	1.11	[.98, 1.24]	2.75	.097
	Z Admit Date	.17	.06	1.18	[1.06, 1.32]	8.60	.003
	Low Income	-.13	.10	.88	[.72, 1.07]	1.63	.202
	Female	-.19	.11	.82	[.67, 1.02]	3.30	.069
Step 2	Z H.S GPA	.53	.06	1.71	[1.52, 1.92]	78.94	.000
	Z SAT Score	.11	.06	1.11	[.99, 1.25]	3.11	.078
	Z Admit Date	.15	.06	1.16	[1.04, 1.30]	6.96	.008
	Low Income	-.14	.10	.87	[.71, 1.06]	1.86	.173
	Female	-.23	.11	.80	[.65, .99]	4.38	.036
	TLC	.51	.11	1.67	[1.33, 2.08]	20.10	.000

TLC participants have a 67% better odds of being retained compared to non-participants (based on the odds ratio).

# ANCOVA Results: 2010 TLC Participation and Cumulative One-Year GPA

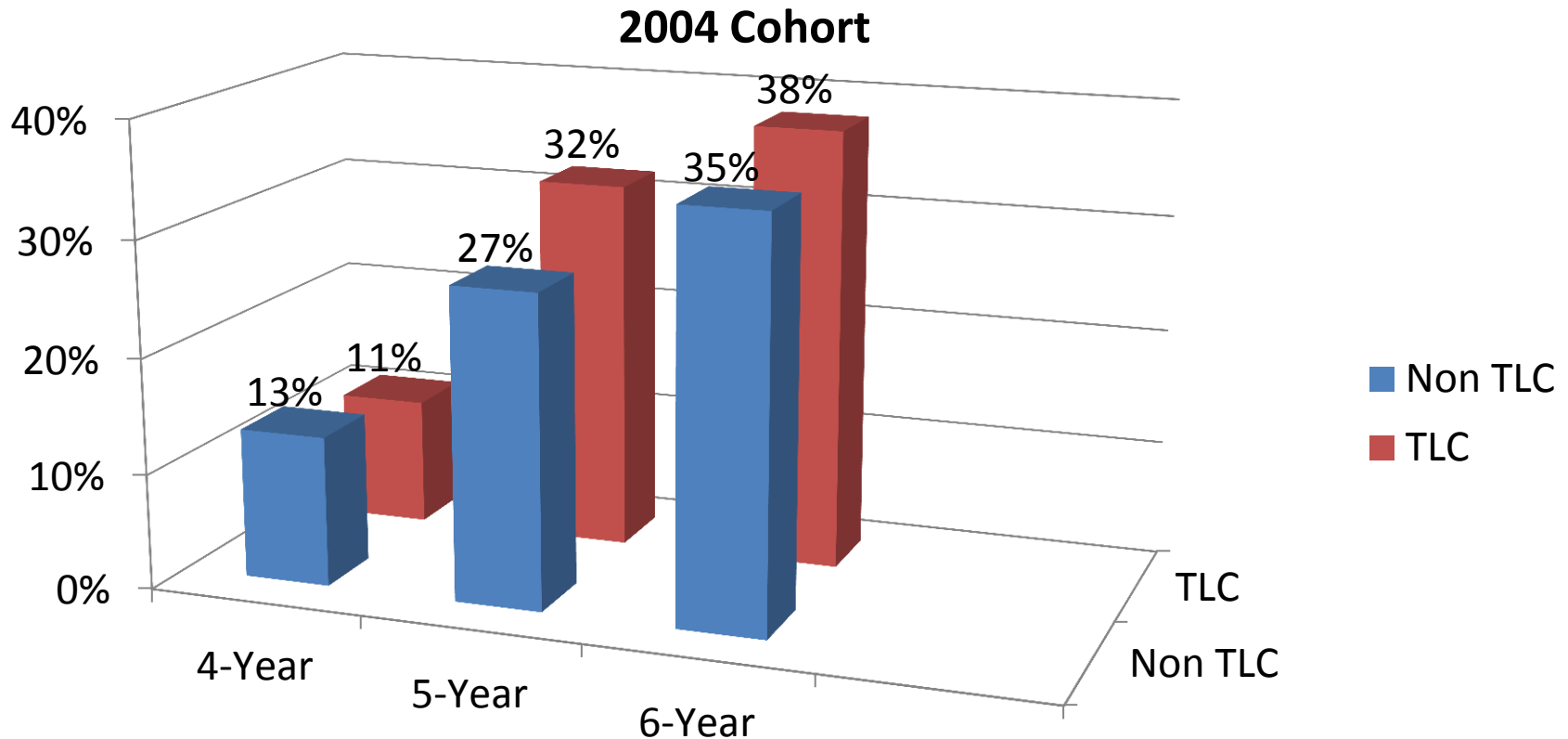
	N	First-Year GPA	Adjusted First-Year GPA*
TLC	681	<b>2.78</b>	<b>2.77</b>
Non-Participants	1528	<b>2.61</b>	<b>2.61</b>
Overall	2209	2.66	

Bolded items are statistically significant based on Analysis of Covariance (ANCOVA) results ( $p < .0001$ ). Covariates included: HS GPA, SAT Score, Admit Date, Low Income, Gender.

# TLC Student Groups/Underrepresented Minority Participation and Academic Success Outcomes

	TLC PARTICIPANTS				NON-PARTICIPANTS		
	N	First-Year GPA	% First-Year GPA Below 2.0.	One-Year Retention Rate	First-Year GPA	% First-Year GPA Below 2.0.	One-Year Retention Rate
Female	481	<b>2.82</b>	17%	<b>78%</b>	<b>2.67</b>	22%	<b>69%</b>
First-Generation	303	<b>2.69</b>	<b>20%</b>	<b>82%</b>	<b>2.47</b>	<b>30%</b>	<b>67%</b>
Pell Grant	316	<b>2.59</b>	<b>23%</b>	<b>77%</b>	<b>2.40</b>	<b>32%</b>	<b>66%</b>
African American	82	<b>2.34</b>	<b>30%</b>	<b>77%</b>	<b>2.11</b>	<b>40%</b>	<b>65%</b>
Asian American	14	<b>3.19</b>	14%	100%	<b>3.06</b>	8%	91%
Latino/a	35	<b>2.76</b>	<b>17%</b>	<b>80%</b>	<b>2.51</b>	<b>29%</b>	<b>69%</b>
25 or Older	7	<b>3.30</b>	<b>14%</b>	<b>86%</b>	<b>2.78</b>	<b>29%</b>	<b>55%</b>
Conditional Admit	42	<b>2.09</b>	<b>36%</b>	<b>67%</b>	<b>1.92</b>	<b>48%</b>	<b>56%</b>

# TLC Impacts On Graduation Rates



Graduation figures include bachelor's and associate degrees awarded through August of the appropriate year, and certificates awarded through December of the appropriate year.

# TLC Participation and Academic Success Outcomes (2011)

	Fall GPA	% Below 2.0 Fall GPA	Fall-Spring Retention Rate*
TLC	<b>2.90</b>	<b>15%</b>	<b>93%</b>
Non-Participants	<b>2.67</b>	<b>21%</b>	<b>87%</b>
Overall	2.74	20%	89%

Note 1: Missing cases were excluded.

Note 2: Bolded items are statistically significant based on an independent samples t-test or chi-square test results ( $p < .05$ ).

\* Retention rate based on IUPUI Indianapolis only (includes all degree seeking – Bachelors, Associates, and Certificates).

# ANCOVA Results: TLC Participation and Cumulative Fall GPA (2011)

	N	Fall GPA	Adjusted Fall GPA
TLC	729	<b>2.90</b>	<b>2.95</b>
Non-Participants	1617	<b>2.67</b>	<b>2.65</b>
Overall	2346	2.66	

Bolded items are statistically significant based on Analysis of Covariance (ANCOVA) results ( $p < .0001$ ). Covariates included: HS GPA, SAT Score, Admit Date, Low Income, Gender.



# High Impact Practices

“When I am asked, what one thing we can do to enhance student engagement and increase student success? I now have an answer: make it possible for every student to participate in *at least two high impact activities during his or her undergraduate program, one in the first year, and one taken later in relation to the major field.* The obvious choices for incoming students are **first-year seminars, learning communities, and service learning**” (George Kuh, 2008).

# Hierarchical Multiple Regression Results: High Impact Practices and Cumulative First Year GPA (N = 2023)

	Variable	<i>b</i>	<i>SE b</i>	$\beta$
Step 1	HS GPA	1.07	.06	.42***
	SAT Score	..01	.00	.13***
	Female	.11	.04	.06**
	First Generation	-.11	.04	-.06**
Step 2	HS GPA	1.06	.07	.41***
	SAT Score	.01	.00	.13***
	Female	.11	.04	.05**
	First Generation	-.12	.04	-.06**
	Summer Bridge-TLC	.32	.08	.11***
	FYS-TLC	.28	.07	.10***
	Summer Bridge	.25	.09	.07**
FYS	.12	.06	.06*	

$R^2 = .254$  for Step 1:  $\Delta R^2 = .011$  for Step 2 ( $p < .001$ ).

\*\*\* $p < .001$ , \*\* $p < .01$ , \*  $p < .05$

# Limitations

- A noteworthy limitation of these investigations is that students self-select into TLCs and selection bias may have affected the internal validity of this study. Thus, the ability to make causal inferences based on the information is limited.
- It is possible that the positive effects of TLCs on academic performance are due to the fact that students who decide to enroll may have differed in substantial ways from students who decided not to enroll and these differences (not TLCs) may have caused the positive outcomes.
- Although important variables were treated as covariates in the statistical models, it is difficult to adjust for all possible self-selection factors using traditional statistical techniques and when experimental designs using random assignment are not employed.

# 2008 National Survey of Student Engagement

**Significant differences between TLC students (144) in comparison to IUPUI non-TLC students (375) and notably different compared to NSSE Peer Institutions group:**

## **Diversity**

- Included diverse perspectives in class discussions or writing assignments
- Institutional emphasis on encouraging contact among students from different economic, social, and racial or ethnic backgrounds
- Tried to better understand someone else's views by imagining how an issue looks from his or her perspective
- Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values
- Learned something that changed the way you understand an issue or concept

## **Interdisciplinary Learning**

- Put together ideas or concepts from different courses
- Worked on a paper or project that required integrating ideas or information from various sources

## **Service & Out of Class Learning**

- Worked with classmates outside of class
- Participated in a community-based project
- Community service or volunteer work

## **Academic Challenge**

- Worked harder than thought they could to meet an instructor's standards or expectations
- Made class presentations

## **Supportive Campus**

- Overall higher quality of relationships with other students
- Overall higher quality of academic advising
- More institutional emphasis on providing the support students need to help them thrive socially

## **NSSE Benchmarks: TLC Students Higher than IUPUI Students and Peer Institutions**

- **Active and Collaborative Learning**
- **Enriching Academic Experiences**

# TLC End-of-Course Questionnaire

- Integrative Thinking and Learning  $\alpha = .87$ 
  - “Understood connections between different disciplines and courses.”
  - “Developed a better understanding of complex real world social problems and issues.”
- Peer Interactions  $\alpha = .74$ 
  - “Discussed ideas from the TLC with peers outside of class.”
  - “Formed one or more friendships that I will maintain after the semester.”
- Faculty Interactions  $\alpha = .80$ 
  - “Made connections with faculty outside of class.”
  - “Discussed connections between any TLC courses with faculty.”
- Communication Skills  $\alpha = .74$ 
  - “Became more effective with communicating my thoughts in writing.”
  - “Became more effective with communicating my thought in speaking.”

# Which Course Components make Significant Impact on Student Satisfaction with Learning Experiences?

- Integrative Thinking and Learning
  - Applied what I learned in one course to another course in my learning community.
  - Understood connections between different disciplines and course.
  - Applied knowledge gained in learning community courses in service to the broader community and social issues.
  - Became more effective in analyzing and understanding readings in essays, articles, and textbooks.
  - Developed a better understanding of complex real world social problems and issues.
  - Actively discussed complex issues and ideas.
- Peer Interactions
  - Discussed ideas from the TLC courses with peers outside of class.
  - Exchanged ideas with students whose views are different from my own.
  - Formed one or more friendships that I will maintain after the semester.

# TLC Questionnaire Results 2011

- 76% reported that they were “Satisfied” or “Very Satisfied” with their TLC Experience.
- 71% reported that they participated in a community service or volunteer activity.
- 73% reported that they participated in a campus activity or event outside of class.
- 52% reported that they participated in an activity or event in the Indianapolis community.
- 68% reported that they understood connections between different disciplines and courses “Much” or “Very Much.”
- 62% reported that they developed a better understanding of complex real world social problems and issues “Much” or “Very Much.”



# Top 5 Self-Reported Benefits of 2011 TLCs Rank-Ordered by Mean Value

	N	Mean	Std. Deviation
Formed one or more friendships that I will maintain after the semester.	650	4.17	1.01
Understood connections between different disciplines and courses.	656	3.84	.87
Actively discussed complex issues and ideas.	647	3.76	1.02
Developed a better understanding of complex real world social problems and issues.	653	3.73	1.01
Exchanged ideas with a student whose views are different from my own.	655	3.72	1.03

Based on a 5-point response scale where 1 = Very Little, 2 = Little, 3=Some, 4 = Much, and 5 = Very Much.

# Self-Reported Benefits of 2010 TLCs

## Rank-Ordered by Mean Value

	N	Mean	Std. Deviation
Formed one or more friendships that I will maintain after the semester.	640	4.17	1.04
Exchanged ideas with student whose views are different from my own.	639	3.76	1.02
Understood connections between different disciplines and courses.	640	3.66	.93
Became more effective with communicating my thoughts in writing.	641	3.62	1.03
Actively discussed complex issues and ideas.	636	3.58	1.03

Based on a 5-point response scale where 1 = Very Little, 2 = Little, 3=Some, 4 = Much, and 5 = Very Much.

# Lowest Rated Items Related to Making Connections with Faculty

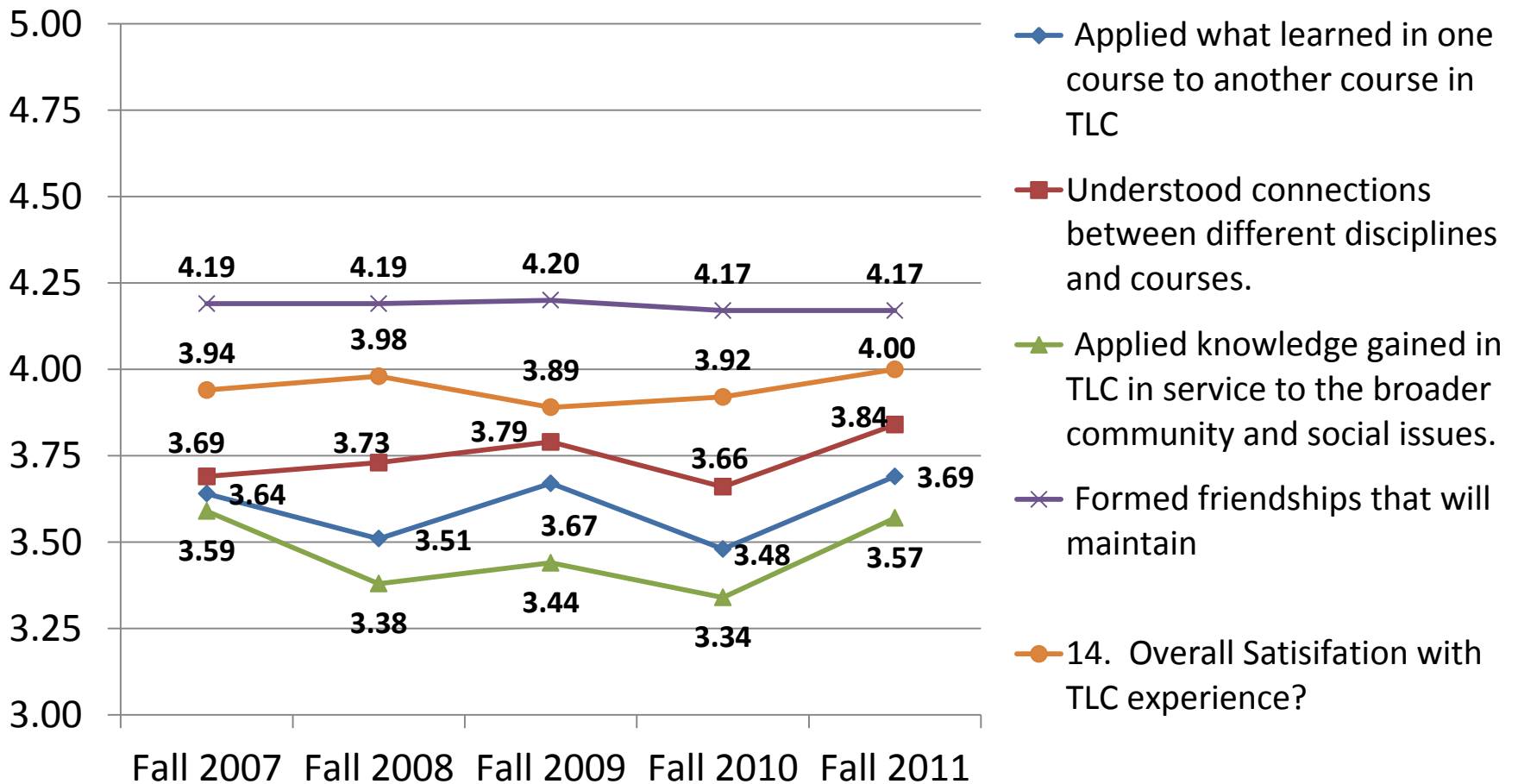
## 2010 Results

	N	Mean	Std. Deviation
Made connections with faculty outside of class.	639	3.13	1.16
Discussed connections between any TLC courses with faculty.	636	3.03	1.15

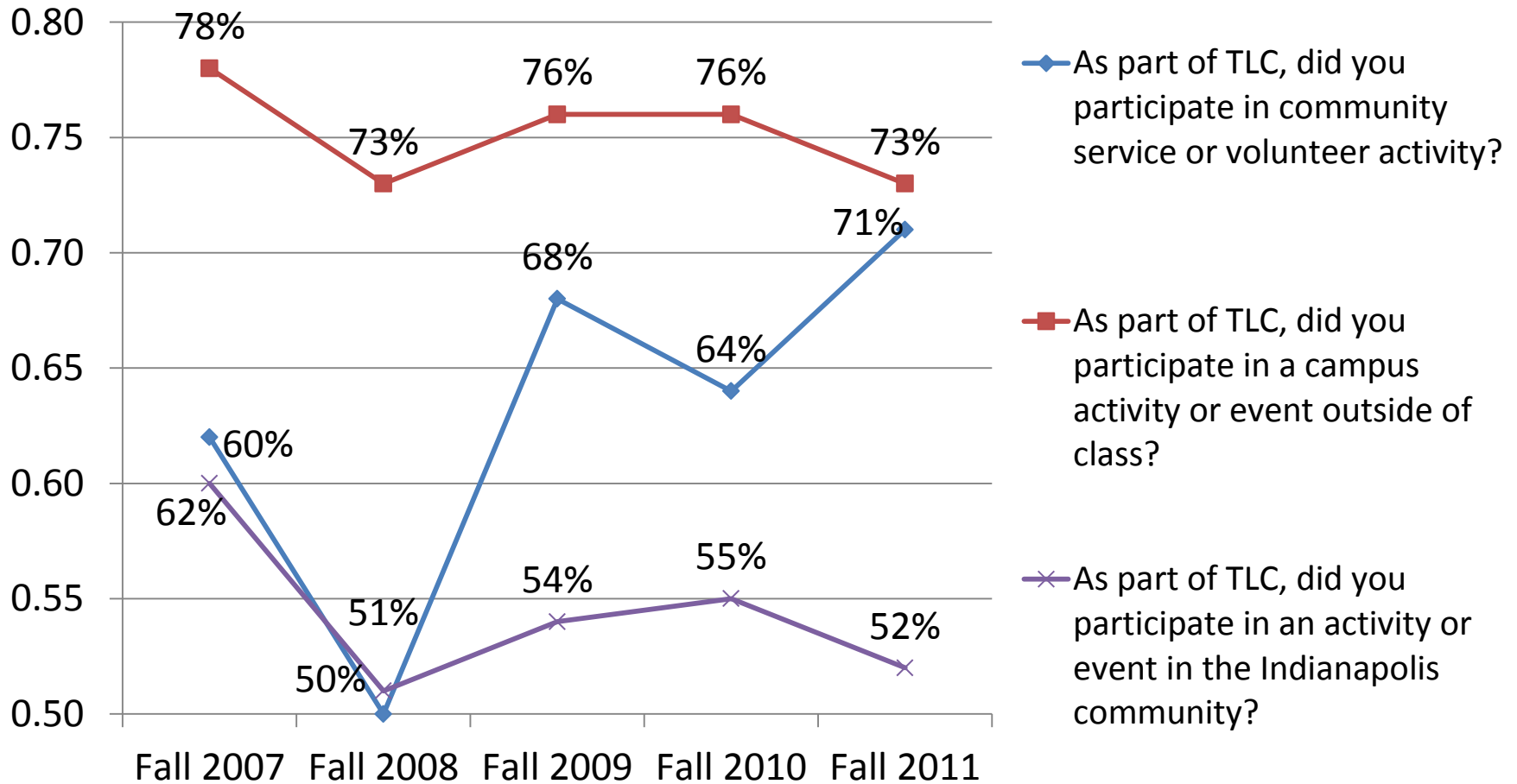
## 2011 Results

	N	Mean	Std. Deviation
Made connections with faculty outside of class.	650	3.25	1.21
Discussed connections between any TLC courses with faculty.	651	3.25	1.20

# Quality of Experiences Over Time



# Participation in Community Service and Campus Events Over Time



# 2011 Qualitative Findings

- Examination of Students' Open-ended Responses to the TLC Program Questionnaire.
- Designed to help provide a holistic “birds-eye view” of the program.
- Allows for us to understand students' *Thoughts & Perceptions in Their Own Words*.
- Qualitative Data is very *Rich* – Goal is to provide immediate *feedback*.

# Findings

- Focuses on two (2) main questions:
  - **How TLC Experiences Contributed to Learning:**
  - **Suggestions for Improving the TLC Program:**
- Analyzed – 2,813 Student Comments.
- Coding Process used in conjunction with ATLAS.ti (Straus & Corbin, 1990).
- Comprehensive Report is Available:  
([research.uc.iupui.edu](http://research.uc.iupui.edu)).

# ATLAS.ti



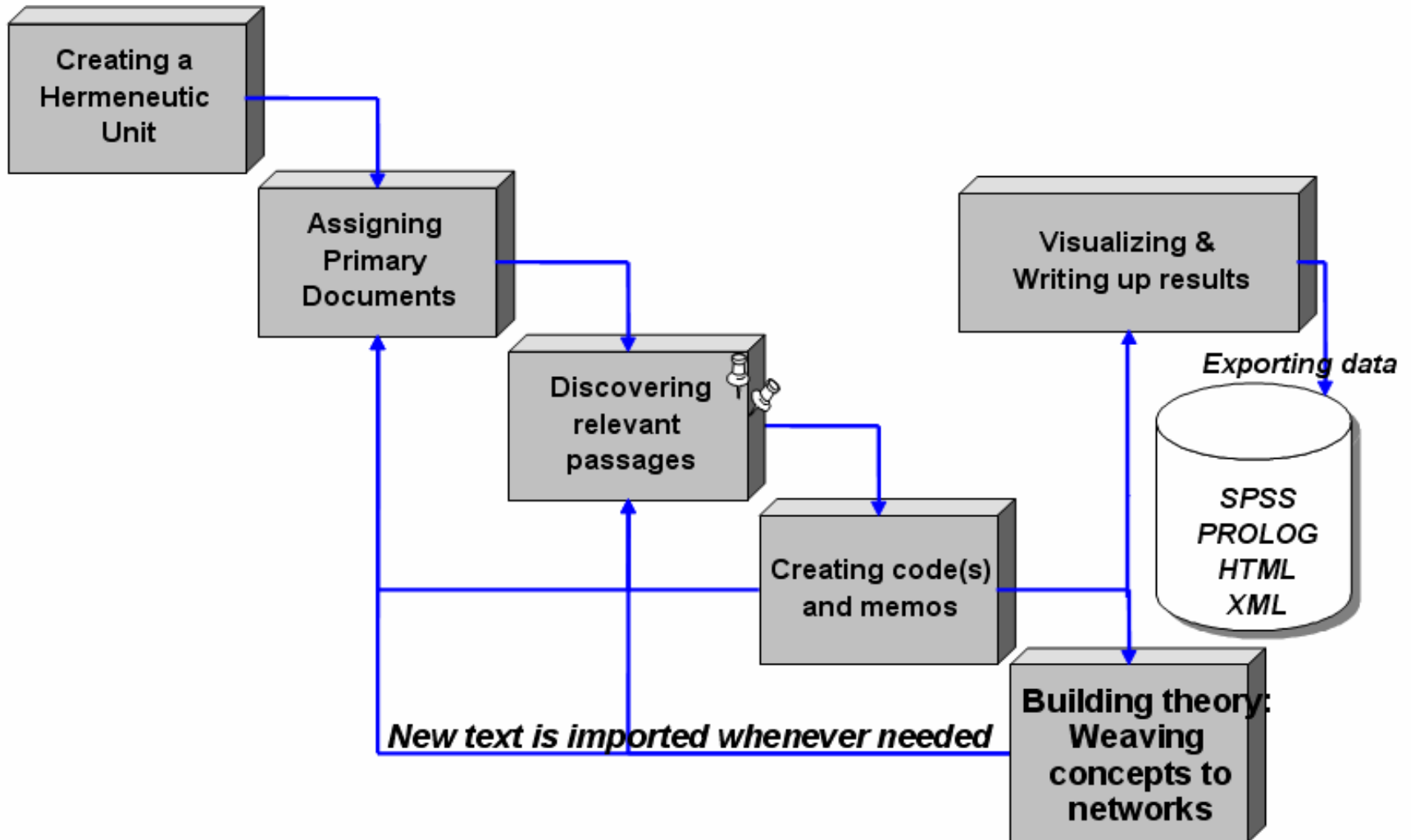
<http://www.atlasti.com/>

**Other Software Programs:**

<http://www.eval.org/resources/QDA.htm>



# ATLAS.ti



**“Please describe how your TLC  
experience contributed to your  
learning:” (n = 577)**

**Major Themes....**

# Meeting New People & Developing Connections

- “Meeting people”.
- “Gained friendships”.
- “It helped me meet friends, which led me to do better in class”.
- “I had the opportunity to meet different people with different ideas”.
- “It was a great way to make friends who had similar interests and goals”.

# College Transition Assistance

- “Helped me transition to college”.
- “It has helped me move from HS to college”.
- “The TLC helped me adjust to my classes”.
- “It got me ready for college thinking and learning”.
- “It helped me maintain and cope with being a freshman a lot better. I was able to learn how to study and what it takes to be successful”.

# Linked Courses – Integrated Experiences

- “Coordinated curriculum was nice”.
- “It helped by linking the 3 classes together”.
- “By connecting the class it was easier to work”.
- “Could apply things I learned in one class to another”.
- “Having the classes connected help me to see the bigger picture”.
- “The two education classes built on each other, making it easier”.

# Critical Thinking

- “Critical thinking”.
- “Helped critical thinking”.
- “It helped me to analyze”.
- “I used the critical thinking wheel for a better understanding “.
- “It allowed me to think much deeper about everything”.
- “It helped me see the other side of arguments”.

# Other Notable Areas

- Developed Peer Support Network.
- Major & Career Discovery (Connections).
- Developed Critical Thinking Skills.
- Increased / Made Learning Easier.
- Increased Diversity Awareness & Knowledge.
- Same Students in Classes.
- Learned About IUPUI & Campus Resources.

**“What specific suggestions do you  
have for improving the Themed  
Learning Communities? (n = 503)**

**Major Themes....**



# Improve / Cancel Specific Course or Component

- “Exclude (----) from TLC”.
- “Better assignments + better class structure”.
- “Organize the UCOL class and have it more interesting and fun!”.
- “No PDP, or optional”.
- “Better technology on ePDP”.
- “Also, the PDPs need to be reviewed & edited/graded once they're due. This would ensure that people complete them & do their best”

# Improve Organization & Communication

- “Organize!”.
- “Better communication”.
- “It needs to be better organized”.
- “Spread out the classes more”.
- “Announcements should be clearly posted for assignments”.
- “I would make sure the assignments on the syllabus are explained more clearly”.
- “Explain how to do the assignments more”.

# More Instructional Team Support

- “Have a more involved teacher”.
- “Make sure all the profs understand we're freshmen”.
- “Maybe the teaching staff could be a little bit more personable”.
- “Pick professors willing to work with people a little, and have a longer fuse”.
- “Need to have experienced professors who can communicate effectively with students”.

# Other Notable Areas

- General Positive Comment.
- More Group Activities & Discussions.
- Improve Course Linkages.
- More Meaningful, Helpful, & Productive.
- Less Time Commitments & Restraints.

# Comparison Highlights

- Students reported a lack of connection with the “Theme” in 2009 & 2010; but not in 2011.
- #1 reason given for enrolling in a 2011 TLC was “College Transition Assistance”  
(Ranked #3 in 2010 / #5 in 2009 ).
- Increase in Awareness & Knowledge of Diversity Issues:  
(Not Reported in 2009 or 2010).
- **3 New Areas** emerged as **Most Liked** aspects in 2011 :  
“Developing a Sense of Community”; “Connections Between Linked Classes”; “Group Activities & Discussions”.

# Overall Research Implications

- Students seem to react positively to TLC interventions that facilitate positive connections, interactions, equip them with skills necessary to effectively adjust to college, and help them make connections between courses.
- Pedagogical strategies that facilitate Integrative Learning and Peer Interactions may be most effective in enhancing students' overall satisfaction with their learning experiences.
- TLCs help promote high levels of engagement: Active and Collaborative Learning and Enriching Academic Experiences.

# Conclusions

- TLC faculty have developed pedagogical strategies that foster engagement, integrative thinking, and positive learning experiences.
- The collective impact of TLC courses may be greater than any one course or intervention.
- The positive learning and collaborative environments created by the TLC instructional teams seem to have positive effects on the academic success outcomes for students with diverse backgrounds and with identified “risk factors.”
- TLC interventions can have positive impacts on academic success outcomes (academic performance and persistence).

# Next Steps

- Continue to develop assessment techniques and methods to investigate impacts of TLC interventions.
- Comprehensive study of integrative learning.
- Focus groups or individual interviews with previous TLC students to enhance understanding of their experiences.
- Continue to develop pedagogical strategies that strengthen the positive effects TLCs.
- Use more methods to assess direct learning outcomes (e.g., examine and discuss student work and integrative assignments).
- Conduct a study to understand the notable variation in student success outcomes (GPAs and Retention rates) and students' self-reported learning outcomes between sections.



# Using Authentic Evidence to Deeply Understand Student Integrative Learning and Thinking

- Examining and analyzing actual student work is the best way to truly understand student learning as a result of TLC participation.
- Instructional team involvement is key!
- Sign up sheet available if you are interested in being involved in research to understand and improve student learning (integration and critical thinking).

# Questions?

Reports available at

<http://research.uc.iupui.edu/>