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Assessing a Summer Preparatory Program: A Practical Approach to Theory-Based Program Evaluation

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- Available at:

<http://uc.iupui.edu/staff/assessment/presentations.asp>



Presentation Overview

- IUPUI Context
- Summer Preparatory Program – Special Projects
- Program Evaluation Methods
 - Theory Based Evaluation
 - Results
 - Implications
- Next Steps



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Indiana University Purdue University Indianapolis (IUPUI)



- Downtown Indianapolis
- Public comprehensive four year institution
- Over 200 academic programs
- Doctoral/Research Intensive
- Enrollment - 30,383
 - Undergraduate - 22,119
 - Graduate - 8,264

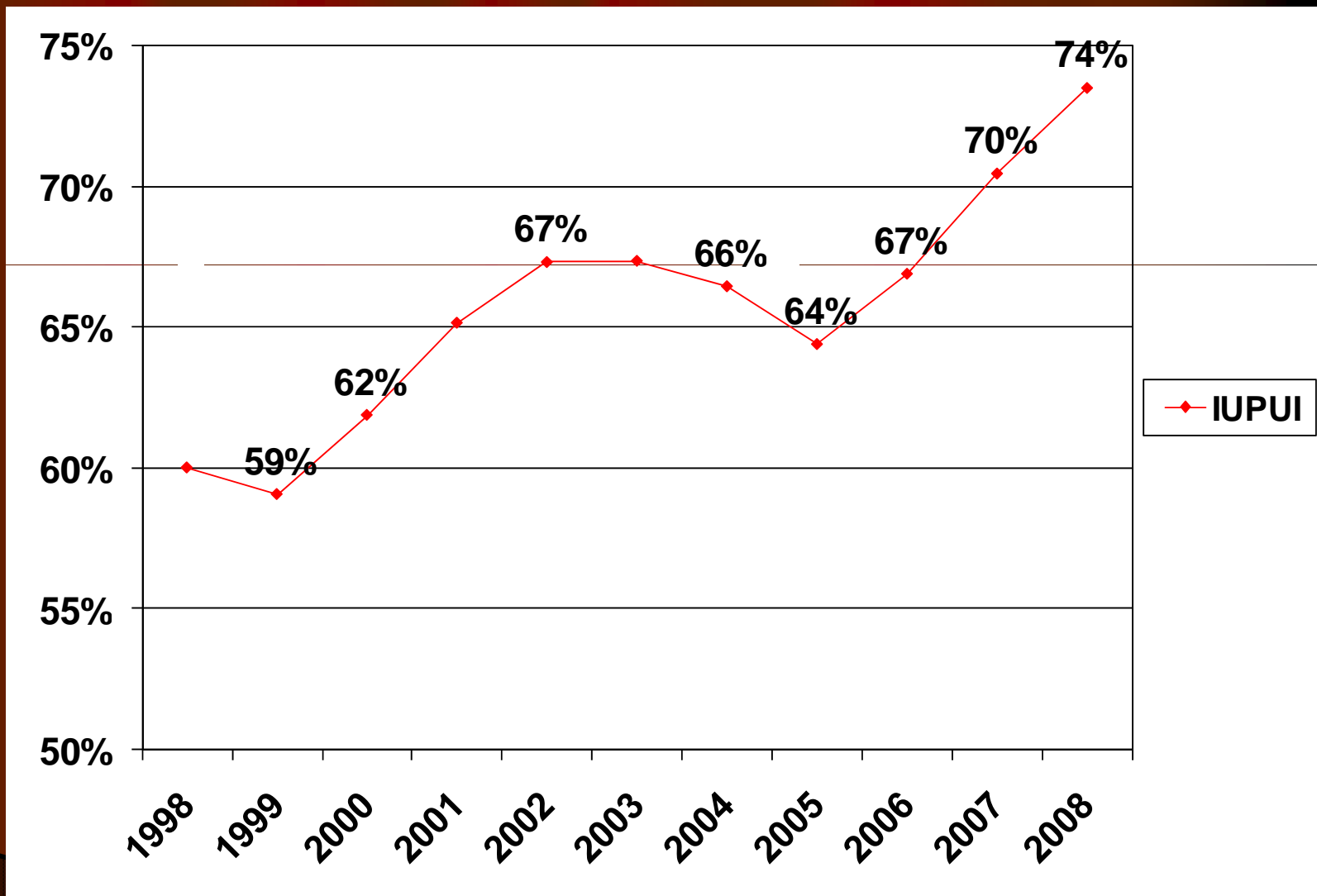


First-Year Students

- Large number of under-prepared first-year students struggling to balance work and school commitments.
- 7% admitted conditionally.
- 41% of first-year students are first-generation college students.
- 86% of first-time, full-time students plan to work while attending college.
- 76% of first-time, full-time students commute to campus.



IUPUI (IN Only) One-Year Retention Trend

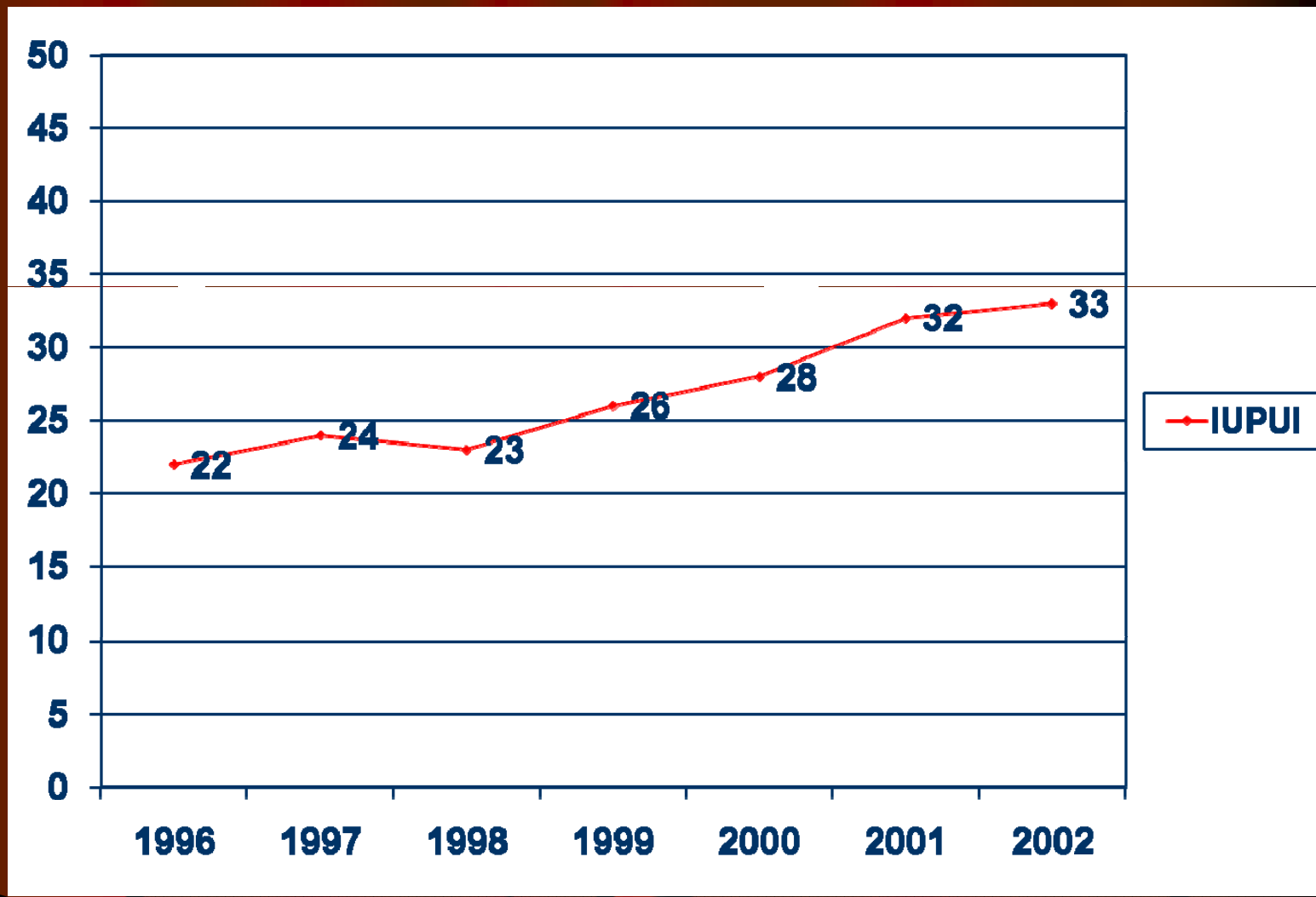




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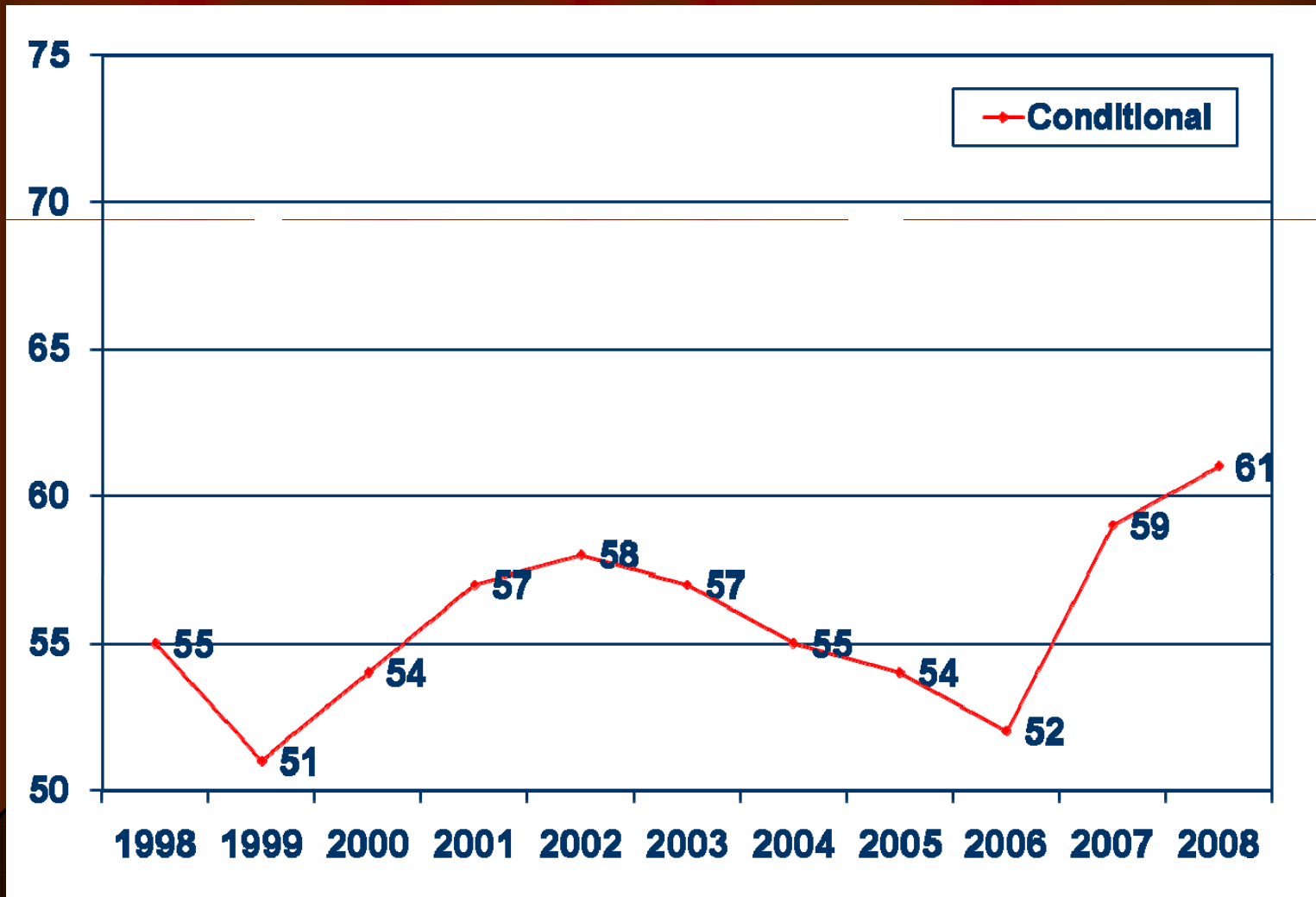


IUPUI (IN Only) 6-Year Graduation Trend





IUPUI Retention Trend for Conditional Admits





Summer Preparatory Program

- Began in 2007 with focus in Mathematics, as part of IUPUI's commitment to enhancing student success (about 70 students participated)
- Provides at-risk (conditionally admitted) students with mathematics deficiencies an opportunity, free of charge, to enhance their math skills as well as to adjust to the demands of college.
- Program was expanded in 2008 and 2009 based on positive results.



2009 Summer Preparatory Program

- Writing and Special Projects components added 2009.
- Took place on the IUPUI campus each week day for four and a half hours July 8th through August 12th. Orientation meeting on July 2.
- 180 first-time conditionally admitted students participated in Mathematics and Special Projects components
- 62 students also participated in the Writing component



Math and Special Projects Participants (N=180 Conditionally Admitted Students)

- M=13.16, SD=1.75 - Average Course Load
- M=18.83, SD=.48 - Average Age (range 18 – 21)
- M=901.22, SD=119.34 - SAT Total
- M=444.84, SD=72.51 - SAT Math
- M=2.71, SD=.19 - High School GPA
- 48% - First-Generation
- 60% - Female

Ethnicity

- 73% - Caucasian
- 18% - African American
- 4% - Latino
- 5% - Other



Writing Participants (N=62 Conditionally Admitted Students)

- M=13.35, SD=1.38 - Average Course Load
- M=18.81, SD=.44 - Average Age (range 18 – 20)
- M=933.44, SD=128.764 - SAT Total
- M=400.50, SD=72.54 - SAT Verbal
- M=2.66, SD=.19 - High School GPA
- 45% - First-Generation
- 65% - Female

Ethnicity

- 66% - Caucasian
- 26% - African American
- 5% - Latino
- 3% - Other



Summer Preparatory Program – Renamed to Summer Success Academy for 2010

- Below is a link to the news report video highlighting the SPP.
- http://www.wishtv.com/dpp/news/education/Freshmen_getting_a_jump_start_at_IU_PUI_20090721



Summer Preparatory Program - Special Projects

Designed to help Students:

- Develop critical thinking skills
- Learn to interact effectively in group settings
- Gain an understanding for the Principles of Undergraduate Learning (PULs)
- Feel welcome to (IUPUI)
- Provide students with the resources and support necessary for collegiate success
- Enhance Students' Sense of Belongingness and Organizational Commitment



Multiple Measures

- A mixed-method design allowed for the measurement of direct student learning outcomes as well as students' attitudes, perceptions, and intended behaviors. Methods included:
 1. Post Program Academic Success
 2. Students' Sense of Belongingness, Self-Efficacy, and Organizational Commitment Questionnaire (Pre and Post)
 3. Sample of Special Projects (direct measure of student learning)
 4. Writing Reflection Task (Pre and Post)
 5. Student Satisfaction Questionnaire



Mixed-Method Design

- Employed qualitative and quantitative methods.
- Attempted to understand how Summer Preparatory Program influences students' success levels (e.g., retention rates, GPAs).
- Employed to triangulate or determine if findings converge.
- Used complimentary techniques.
- Qualitative methods used to enhance understanding regarding what program components made most meaningful contributions to learning and academic success outcomes.



Students' Opinions About College Questionnaire (Pre & Post)

- The questionnaire was designed to measure students' thoughts and opinions in five domains:
 - 1) Sense of Belongingness; 2) Institutional Commitment to IUPUI); 3) Individual Academic Self-Efficacy; 4) Group Work Self-Efficacy; and 5) Intention to Graduate from IUPUI.
- A principal components factor analysis served to confirm dimensional groupings created based on theory.
 - The resulting questionnaire items were grouped by domain and an average score was created for the purpose of conducting paired samples t-tests in order to measure growth.



Sample of Special Projects (Actual Student Work Products)

- Student participants worked together in small groups to plan and develop a *Special Project*.
 - Allowed students to demonstrate their understanding of a specific general education outcome
 - Three days each week all (187) SPP students were allotted specific time (1 hour) to work individually with their team members in an effort to develop a Special Project.
 - Many of the Special Projects were in the form of Power Points and poster presentations.
- After the completion of the SPP a sample of (13) projects were randomly selected for evaluation.
 - Evaluated by two separate assessment team members using a rubric to enhance interrater reliability



Sample of Special Projects (Examples)

- One group conveyed their understanding of *Critical Thinking* by creating a crossword puzzle challenging viewers to match core concepts of the principle to a related definition.
- Another group conveyed their knowledge of *Understanding Society and Culture* by creating a poster depicting a “cake recipe” where all ingredients of the cake mixture represented a different demographic group.



Writing Reflection Tasks (Pre and Post)

- Student participants voluntarily completed an open-ended writing Reflection Task at the beginning and at the end of the Summer Preparatory Program (SPP).
 - Students were informed that their responses would remain confidential and not count toward a course grade.
 - A total of 149 individual student Writing Reflection Tasks were able to be paired with their pre/post counterpart.
- The goal of the task was to directly measure participants' understanding of the general education outcomes.
- One research team member scored all pre and post task writing assignments separately using a rubric.
 - Another research member scored a sample of 20 pre and post task writing assignments as a check for interrater reliability.



Pre (Post) -Course Task: Students' Understanding of IUPUI's Principles of Undergraduate Learning

Instructions: The purpose of this task is to understand your perceptions of the IUPUI's Principles of Undergraduate Learning. The results of this task will be used for research purposes only and will not be used to make individual decisions about you as a student. Your responses will not be used for course grading at all! This task is completely voluntary. We are only asking for student id so we can link up responses later and have better understanding of students' growth levels as a whole group. We appreciate your participation as results will be used to make improvements in the Special Projects sessions for future students!

- **Why do *you think* the PULs are important to your educational experience?**
Please take 10 minutes to write your response below:



Student Satisfaction Questionnaire

- Upon completion of the SPPSP, students were asked to voluntarily participate in a post-program student satisfaction questionnaire.
 - A total of 179 students completed the questionnaire.
 - Participants were informed that their individual responses would remain anonymous and would not count toward any course grade.
 - Questionnaire items were both quantitative and qualitative.
- The intent of the questionnaire was to assess student participants' attitudes and perceptions of the Special Projects Sessions.



2009 Summer Preparatory Fall Course Enrollment

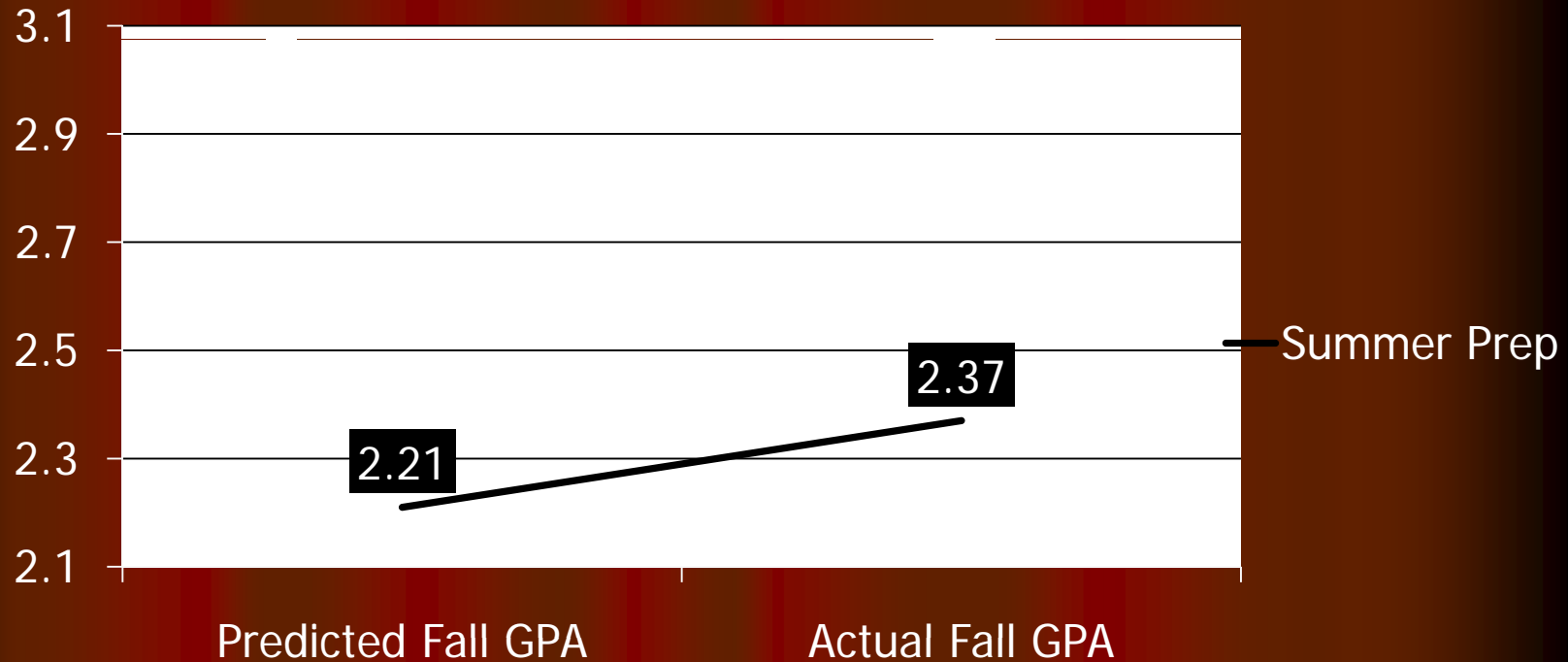
- 146/180 (80%) students who completed the program enrolled in a Math course in the Fall (1, 100, 110, 111, 118, 153, 165, 221). Math Course GPA = 2.07
- 46/62 (74%) students who completed the writing component enrolled in an English Course in the Fall (English 105, W130 or W130). English course GPA = 3.04



Post Program Fall Semester GPA Math and Special Projects

Based on Regression Equation

$$\text{Predicted GPA} = -1.244 + .001 * \text{SAT} + .944 * \text{H.S. GPA}$$



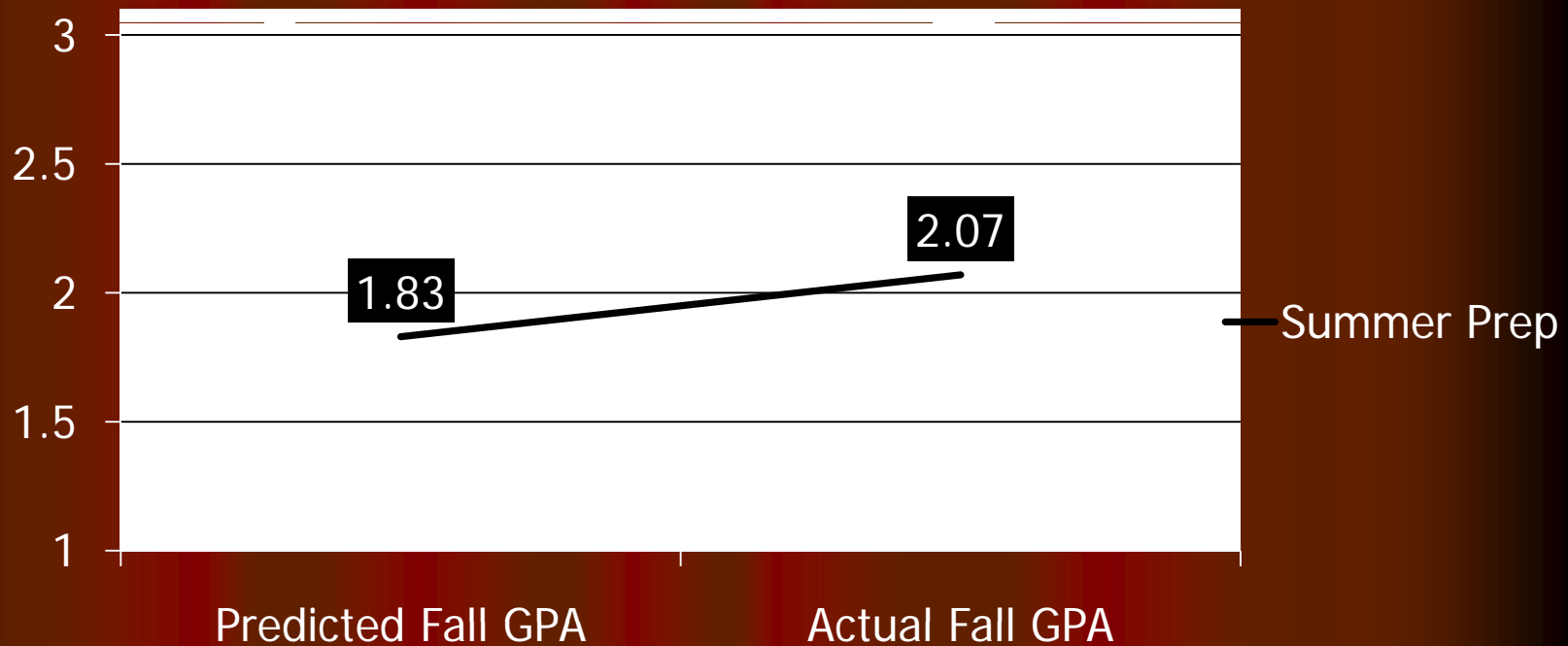
Means are significantly different based on a one sample t-test $p < .05$



Post Program Fall Semester Math Course GPA Math and Special Projects

Based on Regression Equation

$$\text{Predicted GPA} = -1.197 + .0001 * \text{SAT} + 1.09 * \text{H.S. GPA}$$



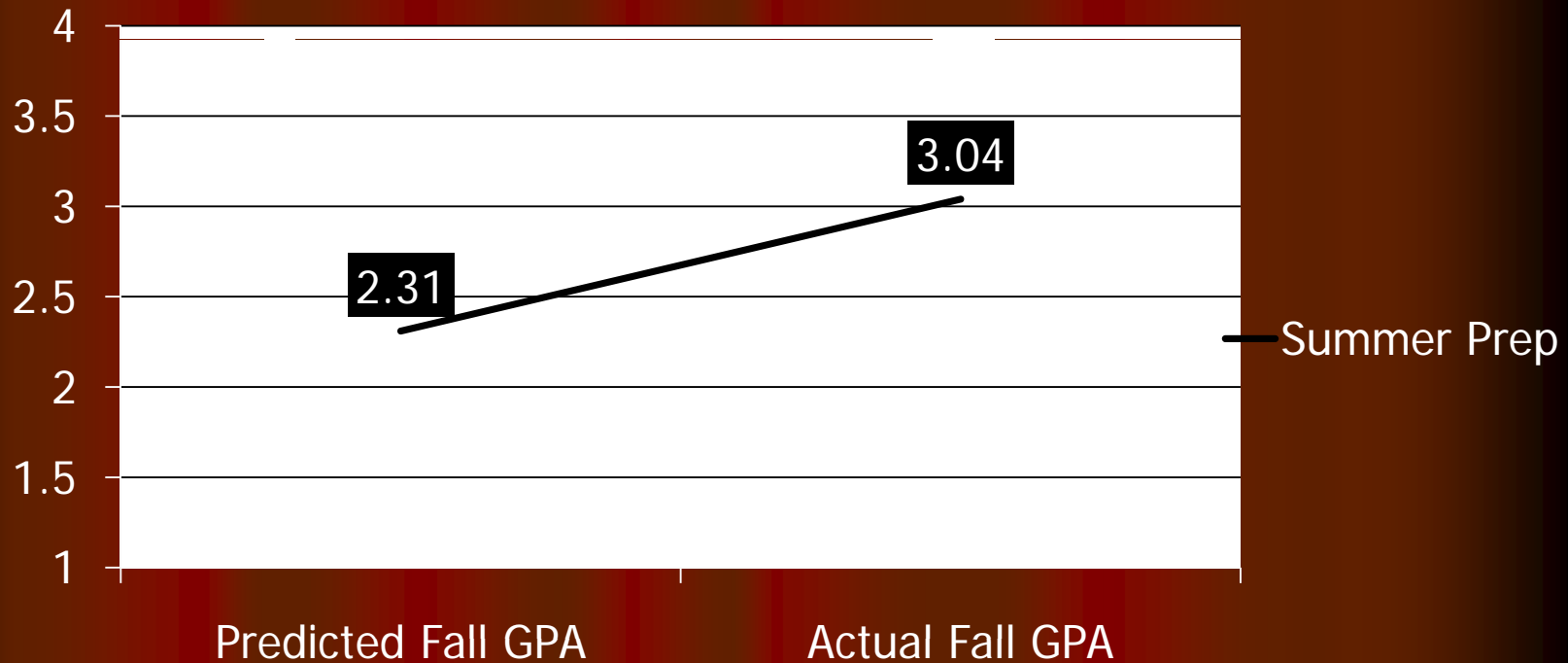
Means are significantly different based on a one sample t-test $p < .01$



Post Program Fall Semester English Course GPA

Based on Regression Equation

$$\text{Predicted GPA} = -.163 + .0001 * \text{SAT} + .900 * \text{H.S. GPA}$$



Means are significantly different based on a one sample t-test $p < .001$



Theory Based Assessment

- *Basic principles of curriculum and instruction* (Tyler 1949)
 - Evaluation based on theory is necessary to ascertain not just whether learning took place, but how.
 - The aim of evaluation should be to discover the mechanisms by which a curriculum succeeded or failed.
- “Instead of using evaluation to describe the theory, evaluation from a scientific perspective would transform into theory verification.” (D’Agostino, 2001, p. 132)



Theories Underlying SPP

Sense of Belongingness

- “We suggest that belongingness can be almost as compelling a need as food and that human culture is significantly conditioned by the pressure to provide belongingness” (Baumeister & Leary, 1995, p. 498)
- “Individuals with a high sense of belongingness may assign more importance to the collective and its goals, increasing their willingness to comply with its rules and help other members of the group”. (Hartog et al, 2007, p. 1132)

Institutional Commitment

- Institutional commitment is a “strong positive predictor of intent to re-enroll” (Milem and Berger, 1997, p.397)



Theories Underlying Our Assessment

Self Efficacy

- First proposed by Bandura, 1977.
 - Basically an individual's judgments about their abilities
- Unlike self-esteem, self-efficacy is not tied to individuals' global perceptions of themselves. Instead, one's perceived self-efficacy is a belief about one's ability in a certain domain. (i.e. Group Work)
- "Self-efficacy perceptions are one of a number of personal factors that...determine motivation, affect, and performance" (Cervone and Scott, 1993 p. 357)



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Results: Students' Opinions About College Questionnaire (Pre and Post)

Table 1: Students Opinions About College Questionnaire (Pre and Post)

Questions	Mean Pre-Course*	SD Pre	Mean Post-Course*	SD Post	Mean Difference
1. I feel that I can share personal concerns with other students	3.78	1.15	4.28	1.26	0.50
2. I am able to develop close friendships with other students	4.73	1.05	4.87	1.12	0.14
3. I am able to make connections with a diverse group of people	4.89	0.96	5.02	0.94	0.13
4. I feel so distant from the other students *	2.05	1.06	2.02	1.21	-0.03
5. I have no sense of togetherness with my peers *	1.99	1.12	2.08	1.22	0.09
6. I can relate to my fellow classmates	4.56	1.01	4.69	1.04	0.13
7. I have some close friendships with IUPUI students	3.78	1.62	4.67	1.31	0.89
8. I am comfortable working in groups	4.72	1.18	4.90	1.05	0.18
9. I don't feel I can successfully participate with anyone or any group *	1.70	1.06	1.81	1.20	0.11
10. I am confident that I can work effectively in groups	5.14	0.94	5.09	0.93	-0.05
11. I am certain that I can accomplish group projects	5.20	0.96	5.11	0.96	-0.09
12. I am not sure if I can get along with other students when working on group projects *	1.90	1.09	2.03	1.28	0.13
13. I am confident that I will excel in college	5.29	0.80	5.41	0.71	0.12
14. I can meet the demands of college	5.21	0.76	5.30	0.75	0.09
15. I feel that I fit right in at IUPUI	4.88	0.92	4.99	0.97	0.11
16. It is important for me to graduate from IUPUI (e.g., rather than from another college)	4.52	1.21	4.57	1.32	0.05
17. I am certain I made the right choice in my attempt to attend IUPUI	5.07	0.93	5.01	0.93	-0.06
18. I intend to transfer to another institution at some point *	2.65	1.48	2.97	1.47	0.32
19. I talk up this college to my friends as a great place to go to school	4.50	1.08	4.52	1.18	0.02
20. I am proud to tell others I will be going to school here	4.94	0.98	4.95	0.92	0.01
21. I could just as well be attending a different college as long as the courses were similar *	3.50	1.30	3.63	1.38	0.13
22. I am extremely glad that I chose IUPUI over other colleges	4.77	1.03	4.70	1.10	-0.07
23. I intend to complete my degree at IUPUI	4.88	1.15	4.89	1.13	0.01

* These questions were reverse coded for all analysis but are presented here in raw form for descriptive purposes. Please note that lower scores on these questions indicate a more positive response

Table 2: Primary Components, Factor Analysis for Students Opinions About College Questionnaire

Sense of Belongingness	$\alpha = .76$
1. I feel that I can share personal concerns with other students	.71
2. I am able to develop close friendships with other students	.72
3. I am able to make connections with a diverse group of people	.59
4. I feel so distant from the other students *	.43
6. I can relate to my fellow classmates	.63
7. I have some close friendships with IUPUI students	.55
8. I am comfortable working in groups	.51
Group Work Self-Efficacy	$\alpha = .78$
5. I have no sense of togetherness with my peers *	.66
9. I don't feel I can successfully participate with anyone or any group *	.81
10. I am confident that I can work effectively in groups	.47
11. I am certain that I can accomplish group projects	.44
12. I am not sure if I can get along with other students when working on group projects *	.72
Individual Academic Self-Efficacy	$\alpha = .82$
13. I am confident that I will excel in college	.83
14. I can meet the demands of college	.84
15. I feel that I fit right in at IUPUI	.51
Institutional Commitment (to IUPUI)	$\alpha = .74$
17. I am certain I made the right choice in my attempt to attend IUPUI	.56
19. I talk up this college to my friends as a great place to go to school	.72
20. I am proud to tell others I will be going to school here	.77
21. I could just as well be attending a different college as long as the courses were similar *	.44
22. I am extremely glad that I chose IUPUI over other colleges	.60
Intention to Complete Degree at IUPUI (Intent not to transfer)	$\alpha = .76$
16. It is important for me to graduate from IUPUI (e.g., rather than from another college)	.63
18. I intend to transfer to another institution at some point *	.81
23. I intend to complete my degree at IUPUI	.86

Table 3: Paired T-Test Results for Students Opinions About College Questionnaire

Groups	Mean Pre	SD Pre	Mean Post	SD Post	Significance	Effect Size	Correlation
Sense of Belongingness	4.46	0.738	4.77	0.833	<.001	0.379	0.457
Group Work Self-Efficacy	5.16	0.738	5.03	0.817	0.094	0.152	0.398
Individual Academic Self-Efficacy	5.14	0.713	5.24	0.649	0.075	0.147	0.504
Institutional Commitment (to IUPUI)	4.55	0.760	4.51	0.737	0.494	0.059	0.587
Intention to Complete Degree at IUPUI (Intent not to transfer)	4.57	1.063	4.48	1.074	0.145	0.118	0.744



Highlights

- Significant positive gains were made in two of the five domains.
 - Suggests that changes in the students' perceptions in these areas were not due to chance alone
- Sense of Belongingness showed the highest growth with a moderate effect size of (.38) as estimated by a Cohen's D.
- Individual Academic Self-Efficacy showed the second highest growth with an effect size of (.15).



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Results: Sample of Group Special Projects

**Table 4: Summer Preparatory Program: Post- Task Group
Special Projects**

Scored Component	Project Scores							
	Total Individual Student Scores:						St. Dev	Mean
	N	0'	1's	2's	3's	4's		
Understands the roles and purposes associated with the PULs.	26	0	0	6	13	7	<u>0.72</u>	<u>3.038</u>
Displays an understanding of how PULs can be applied to real-life scenarios.	26	0	0	5	13	8	<u>0.711</u>	<u>3.115</u>
Communicates the importance of the PULs to the educational experience.	26	0	0	9	12	5	<u>0.731</u>	<u>2.846</u>
Communicate the importance of PULs in greater life, outside of formal education contexts	26	0	0	10	11	5	<u>0.749</u>	<u>2.807</u>
Creativity, Subjective Judgment	26	0	0	6	11	9	<u>0.765</u>	<u>3.115</u>



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Results: Writing Reflection Task (Pre and Post)

Table 5: Summer Preparatory Program: Pre- and Post- Task Writing Reflection Assessment

Scored Component	Pre Test Frequencies							Post Test Frequencies							Aggregate Results		
	Percent (%), Total Individual Student Scores / Rounded to Nearest Whole							Percent (%) Total Individual Student Scores / Rounded to Nearest Whole							Mean <u>Differenti</u> <u>al</u>	<u>Sig.</u>	<u>Effect</u> <u>Size</u>
N = 149	0	1	2	3	4	St. Dev	Mean	0	1	2	3	4	St. Dev	Mean			
Understands the roles and purposes associated with the PULs.	1%	30%	40%	24%	5%	<u>0.883</u>	<u>2.04</u>	0%	20%	36%	37%	7%	<u>0.867</u>	<u>2.302</u>	<u>0.261+</u> <u>6.55%+</u>	<u>0.00</u>	<u>0.265</u>
Displays an understanding of how PULs can be applied to real-life scenarios.	22%	18%	39%	16%	4%	<u>1.128</u>	<u>1.604</u>	13%	13%	40%	30%	4%	<u>1.052</u>	<u>1.986</u>	<u>0.382+</u> <u>9.56%+</u>	<u>0.00</u>	<u>0.289</u>
Communicates the importance of the PULs to the educational experience.	9%	26%	41%	20%	3%	<u>0.962</u>	<u>1.832</u>	9%	16%	34%	34%	7%	<u>1.0648</u>	<u>2.12</u>	<u>0.288+</u> <u>7.22%+</u>	<u>0.004</u>	<u>0.247</u>
Communicate the importance of PULs in greater life, outside of formal education contexts.	28%	12%	34%	24%	2%	<u>1.186</u>	<u>1.617</u>	19%	15%	33%	28%	4%	<u>1.1627</u>	<u>1.818</u>	<u>0.208+</u> <u>5.2%+</u>	<u>0.00</u>	<u>0.176</u>



Highlights

- Results suggest that the SPPSP had significant positive effects on students' understanding in all four of the scored components at the 99% confidence level.
- The component “Displays an understanding of how the PULs” can be applied to real life scenarios” received the most gains.
(Effect Size = .29)
- The component “Understands the roles and purposes associated with the PULs” received the second most gains.
(Effect Size = .25)

* PULs (Principles of Undergraduate Learning are synonymous with general education outcomes)



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Results: Student Satisfaction Questionnaire

Table 6: IUPUI Summer Special Projects Sessions Student Satisfaction Questionnaire

Please indicate how satisfied you were with the Summer Special Projects sessions in the following areas:	Very Dissatisfied		Dissatisfied		Neutral		Satisfied		Very Satisfied		N	Mean	Std. Dev.
	n	%	n	%	n	%	n	%	n	%			
1. Classroom activities that helped me learn	1	0.6%	14	7.8%	52	29.1%	89	49.7%	23	12.8%	<u>179</u>	<u>3.66</u>	<u>0.82</u>
2. Meaningful class discussions	2	1.1%	12	6.7%	66	36.9%	71	39.7%	28	15.6%	<u>179</u>	<u>3.62</u>	<u>0.87</u>
3. Meaningful in-class exercises	3	1.7%	15	8.4%	56	31.3%	76	42.5%	29	16.2%	<u>179</u>	<u>3.63</u>	<u>0.91</u>
4. Projects that contributed to my learning	4	2.3%	15	8.5%	57	32.2%	68	38.4%	33	18.6%	<u>177</u>	<u>3.63</u>	<u>0.96</u>
5. Group activities that contributed to my learning	5	2.8%	17	9.6%	40	22.5%	83	46.6%	33	18.5%	<u>178</u>	<u>3.69</u>	<u>0.98</u>
6. Effectiveness of project group work	4	2.2%	11	6.2%	42	23.6%	87	48.9%	34	19.1%	<u>178</u>	<u>3.76</u>	<u>0.91</u>
7. Instruction on the meaning of the Principles of Undergraduate Learning (PULs)	6	3.4%	10	5.6%	40	22.6%	86	48.6%	35	19.8%	<u>177</u>	<u>3.76</u>	<u>0.95</u>
8. Instruction on how to integrate the PULs into my future role as an IUPUI student	5	2.8%	12	6.7%	38	21.3%	87	48.9%	36	20.2%	<u>178</u>	<u>3.77</u>	<u>0.94</u>
9. Opportunities to learn from other students	4	2.2%	6	3.4%	42	23.5%	89	49.7%	38	21.2%	<u>179</u>	<u>3.84</u>	<u>0.87</u>
10. Opportunities to form friendships with other students	0	0.0%	2	1.1%	17	9.5%	76	42.5%	84	46.9%	<u>179</u>	<u>4.35</u>	<u>0.70</u>
11. Interactions with other students	3	1.7%	2	1.1%	11	6.1%	95	53.1%	68	38.0%	<u>179</u>	<u>4.25</u>	<u>0.76</u>
12. Interactions with student mentors	1	0.6%	6	3.4%	32	18.1%	90	50.8%	48	27.1%	<u>177</u>	<u>4.01</u>	<u>0.80</u>
13. Development of supportive relationships with IUPUI student mentors	3	1.7%	9	5.0%	48	26.8%	82	45.8%	37	20.7%	<u>179</u>	<u>3.79</u>	<u>0.89</u>
14. Overall feelings of a sense of community at IUPUI	0	0.0%	5	2.8%	27	15.2%	96	53.9%	50	28.1%	<u>178</u>	<u>4.07</u>	<u>0.74</u>
15. Overall, how satisfied were you with the Special Projects sessions?	7	3.9%	26	14.6%	40	22.5%	74	41.6%	31	17.4%	<u>178</u>	<u>3.54</u>	<u>1.06</u>
16. Would you recommend the Special Projects sessions to other students?	Yes (n) 101	Yes 56.4%	No (n) 78	No 43.6%	Total N 179	Mean 1.44	Std. Dev. 0.50						

Table 7: Ways in Which Students Attitudes and Feelings About the Summer Preparatory Special Projects Changed Over Time (N=178):

Change	N	%	Examples of Actual Student Comments
Became More Enjoyable	52	31%	<ul style="list-style-type: none"> • “I didn't really like it at first, but I do now.” • “I started looking forward to certain parts.” • “In the beginning I did not want to do it at all but they made it fun over time.” • “At first, I was mad I was put in it but now I'm glad I am.”
Became Less Enjoyable	26	15%	<ul style="list-style-type: none"> • “I went from liking it to not liking it.” • “At first it was okay, but over time I lost interest.” • “It started out with me at a high hope and ended in why am I in this class?” • “It became more uninterested in them.” • “They went from it being a new experience to one not worth it.”
Developed Friendships	17	10%	<ul style="list-style-type: none"> • “As I developed relationships it became more fun. • “At first I was not wanting to attend at all, but having made friends changed my mind.” • “It helped me to get to know the camps better and make friends and meet people I can talk to in the Fall.”
No Change Reported	17	10%	<ul style="list-style-type: none"> • “My attitude and feelings didn't change much.” • “They stayed about the same.” • “My attitude and feelings stayed about the same over the course.” • “My feelings did not change over time.”

Table 8: Most Valued Aspects of the Special Projects Sessions (N=179):

Most Valued Aspect	N	%	Examples of Actual Student Comments
Meeting New People and Forming Friendships	68	38%	<ul style="list-style-type: none"> • “The friendships I formed with other students.” • “Connecting well with classmates.” • “It was good way to meet people.” • “Meeting people before school officially started.” • “I enjoyed working with other students in the class to form new friendships.”
Gaining a Greater Understanding of the PUL’s	50	30%	<ul style="list-style-type: none"> • “Learning the PULS.” • “Understanding the PUL's from different viewpoints.” • “I understood what the PUL's meant afterwards.” • “Going over the PUL's and discussing them.” • “Learning the specifics about the PUL's.”
Participation in Group Activities	32	18%	<ul style="list-style-type: none"> • “The group-work because we applied what we learned.” • “Communication as a group.” • “I liked all of the games/activities that exemplified the PUL’s.”
Gaining a Greater Understanding for IUPUI	19	11%	<ul style="list-style-type: none"> • “The instructor helped me understand IUPUI life and the importance of the PUL’s.” • “The time spent discussing campus questions.”
Participation in Completing Special Projects	10	6%	<ul style="list-style-type: none"> • “I liked the PUL projects. They helped me to understand.” • “The projects because it caused more in depth discussion.” • “I found the projects to be the most meaningful.”

Table 9: Least valued aspect of the Special Project Sessions (N=166):

Least Valued Aspect	N	%	Examples of Actual Student Comments
Participation in Completing Special Projects	36	22%	<ul style="list-style-type: none"> • “The actual projects themselves.” • “I felt like making projects was not valuable.” • “The unnecessary projects and questionnaire s.” • “The PUL projects.” • “Sometimes the project felt pointless.” • “The Special Project session.”
Participation in Group Activities	33	20%	<ul style="list-style-type: none"> • “Working in a group, I was pretty dissatisfied with my group. No one took anything seriously they just joked around.” • “Playing pointless games in the morning.” • “Weird games.” • “Some of the early group activities such as the "ice breakers “
General Positive	25	15%	<ul style="list-style-type: none"> • “Nothing everything done was valuable.” • “All were valuable.” • “I thought that everything was valuable.” • “I liked it all.” • “All activities were at least somewhat valuable.”
Time Commitment / Concern	16	10%	<ul style="list-style-type: none"> • “It was ok. I just think it takes up too much summer time!” • “Was unnecessary to meet 3 times a week.” • “Just the time length. It never took us an hour.” • “I just didn't like having the class so early in the morning.” • “The least valuable would have to be getting up so early.”

Table 10: Suggestions for Improving Future Sessions (N=159)

Suggestion for Improvement	N	%	Examples of Actual Student Comments
Less Time Commitment / Restraints	28	18%	<ul style="list-style-type: none"> • “I don't like how long the program is. I also don't like early morning, I think I could have done better if it was a little later.” • “Make breaks and classes shorter.” • “Making the class like 30-45 min, not an hour and getting better ideas for introducing PUL'S.” • “To start class at a slightly later time.”
More Project Support / More Time to Complete Project	24	15%	<ul style="list-style-type: none"> • “Have more time for planning on projects.” • “Being more clear on what is wanted when making a project for the PUL's.” • “Describe the special project expectations more in-depth.”
Nothing	22	14%	<ul style="list-style-type: none"> • “Don't have any suggestions.” • “None.” • “N/A.”
More Group Activities	17	11%	<ul style="list-style-type: none"> • “More PUL activities.” • “More activities to explore campus and apply PULs doing that.” • “Maybe having more activities to do.” • “More mentor/student interaction and discussion time.” • “I think maybe expanded on the activities so they can learn more about the
More Variety Within Program	17	11%	<ul style="list-style-type: none"> • “Give more room for personal interpretation and creativity, instead of strict guidelines.” • “Don't make everything so repetitive.” • “Don't be so strict about the program. Let students be creative with projects and have fun.”



Highlights

- 31% of students indicated that their attitudes and feelings about the Special Projects sessions changed to become more enjoyable over time. Conversely, 15% of students responded that the Special Project sessions became less enjoyable over time.
- 38% of students responded that meeting new people and forming friendships was the most valuable aspect of the Special Project sessions.
- 30% of students conveyed that they considered gaining a greater understanding of the Principals of Undergraduate Learning (PUL's) to be the most valuable aspect of the Special Project sessions.
- 22% of students indicated that participation in completing special projects was the least valuable aspect of the Special Project sessions.
- 20% of students responded that participation in group activities was the least valuable aspect of the Special Project sessions.



Implications

- Students seem to react positively to early interventions that facilitate positive connections, interactions, and equip them with skills necessary to effectively adjust to college.
- Early interventions may help students feel a sense of belongingness and academic self-efficacy beliefs.
- Early interventions may help students understand the purpose and importance general education outcomes.
- Early interventions may help students adjust to college and perform better academically during their first-semester.
- Programs that are tailored to meet the diverse needs of students are optimal.
- Examining students' work products helps enhance understanding of learning outcomes.



Implications

- An effective practice in future implementations may be for instructional teams to share rubrics with students in advance and provide clearer Special Projects instructions. With this in mind, students will have clearer expectations and may show greater improvements in intended student learning outcomes.
- Students may benefit from more instruction and guidelines regarding how to work effectively in groups.



Next Steps

- Employ longitudinal research designs to enhance understanding of long-term effects.
- Use focus groups and interviews to enhance understanding of students' in-depth perceptions.
- Continue to examine student work to increase understanding of direct student learning outcomes.



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IUPUI Principles of Undergraduate Learning (Concise Definitions)

- **Core Communication and Quantitative Skills**

The ability of students to express and interpret information, perform quantitative analysis, and use information resources and technology – the foundational skills necessary for all IUPUI students to succeed.

- **Critical Thinking**

The ability of students to engage in a process of disciplined thinking that informs beliefs and actions. A student who demonstrates critical thinking applies the process of disciplined thinking by remaining open-minded, reconsidering previous beliefs and actions, and adjusting his or her thinking, beliefs and actions based on new information.

- **Integration and Application of Knowledge**

The ability of students to use information and concepts from studies in multiple disciplines in their intellectual, professional, and community lives.

- **Intellectual Depth, Breadth, and Adaptiveness**

The ability of students to examine and organize disciplinary ways of knowing and to apply them to specific issues and problems.

- **Understanding Society and Culture**

The ability of students to recognize their own cultural traditions and to understand and appreciate the diversity of the human experience.

- **Values and Ethics**

The ability of students to sound decisions with respect to individual conduct, citizenship, and aesthetics.