ACSA/AIA Practice and Leadership Award

2016-2017 Winner Submission Materials

Integrated Project Delivery Theater

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Mississippi State University

WHEN: 29TH + 30TH JANUARY 2015

WHERE: [redacted] Auditorium [redacted] Hall

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INTEGRATED PRACTICE THEATER

SPONSORED BY

A+CA

The Architecture + Construction Alliance

[redacted] UNIVERSITY

- SCHOOL OF ARCHITECTURE
- BUILDING CONSTRUCTION SCIENCE PROGRAM

FEATURED PRESENTERS FROM: ESKEW + DUMEZ + RIPPLE, TURNER CONSTRUCTION, and the ADAMS GROUP

[redacted]

LEARNING INITIATIVE OVERVIEW:

Demonstration of Need:

Despite the introduction of, and increase in, collaborative project delivery methods in recent years, the academy is still ill-equipped to prepare students for collaborative practice. Approximately 70% of faculty members surveyed who identified as teaching collaborative project delivery methods, such as Design-Build and Integrated Project Delivery, also acknowledge a lack of first-hand industry experience with the project delivery method. In an effort to improve the teaching of collaborative skills, as a foreground for collaborative practice, the authors conducted a two-day interactive symposium for nearly eighty third and fourth year level bachelor of architecture and building construction science students in which the students actively engaged in exercises exploring the six topics central to IPD as outlined in the American Institute of Architects, Integrated Project Delivery Guide. These topics included: **process, team formation, communication, compensation, risk, and agreements.**

Initiative Abstract:

The interdisciplinary **Integrated Project Delivery Theater** Symposium was designed to generate Open Source didactic problem-based learning modules. Through a multi-day symposium students and participating faculty members heard lectures given by various professional IPD team members explaining their individual perspectives: Owner, Architect, Constructor. The **impact** of the academic initiative included: **Theoretical Outline, First-Hand Application,** and award winning examples of **Praxis** as presented by a team of professionals who have successfully worked together using IPD. Students and the featured IPD team participated in a series of faculty-designed learning vignettes based upon **interactive** and **didactic problem-based learning models** designed to expose and demonstrate how **best to collaborate** via IPD. **Learning objectives** included but were not limited to: students understanding **IPD terms**, the **benefits of IPD, means of IPD practice** within a professional environment.

At the beginning of the symposium, prior to the first vignette, the **students** were asked to complete a **survey** intended to **measure** their **baseline understanding** of **terminology** and **industry standards** for certain scenarios based on a **stated project delivery method.** Seventy-two students completed the initial survey, for a **response rate of 87%.** The same survey was repeated at the conclusion of the symposium to **assess** whether the **students' understanding** of the six vignette topic areas had improved as a result of their participation in the symposium. **Seventy-three students** completed the final survey, for a **response rate of 89%.** In addition, this effort also included the survey of fellow educators to better understand their needs and help inform how the symposium could be designed to **offer reproducible learning initiatives nationwide.**

FOREGROUND RESEARCH:

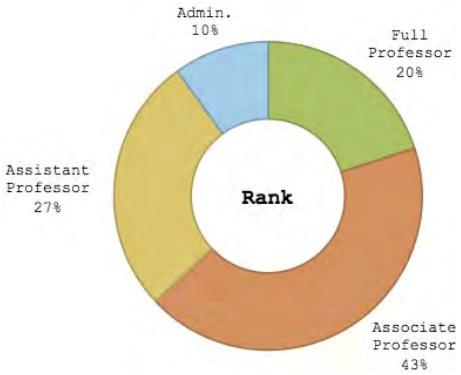
Survey of Educators:

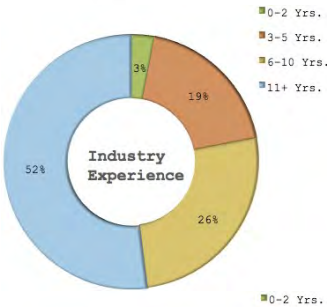
Prior to beginning the pedagogical design process, the symposium development team created **a survey** which **sought to outline the types and means of IPD, IP, and Design/Build education** being deployed **in the academy**. The survey was also used to create a profile of the educators' expertise or lack-there-of with issues of collaborative practice. The Architecture + Construction Alliance, Associated Schools of Construction, Association of Collegiate Schools of Architecture, Building Technology Educators' Society, and Society of Building Science Educators list serves and/or websites were used as platforms for survey dissemination.

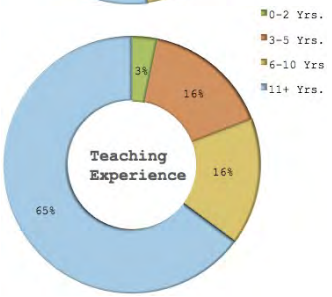
Goals of the survey:

- **Where do faculty members responsible for teaching IPD principles derive their knowledge of IPD?**
- **What methodologies are used to convey the material?**
- **What resources do faculty lack that could improve their teaching of IPD content?**

Respondents:



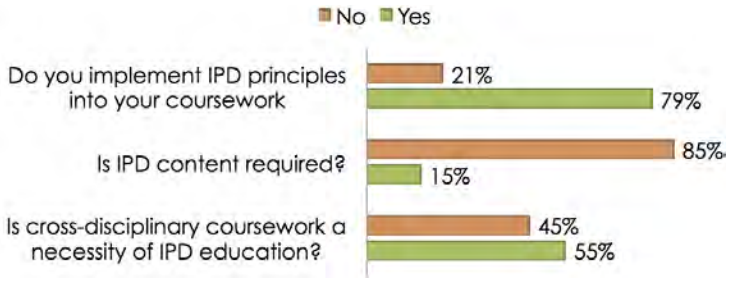


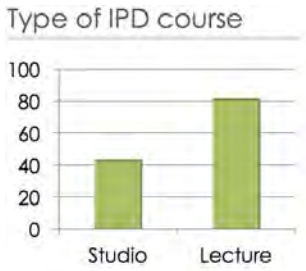


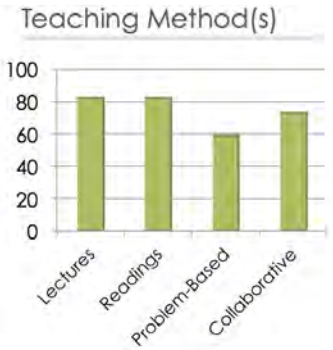
FOREGROUND RESEARCH:

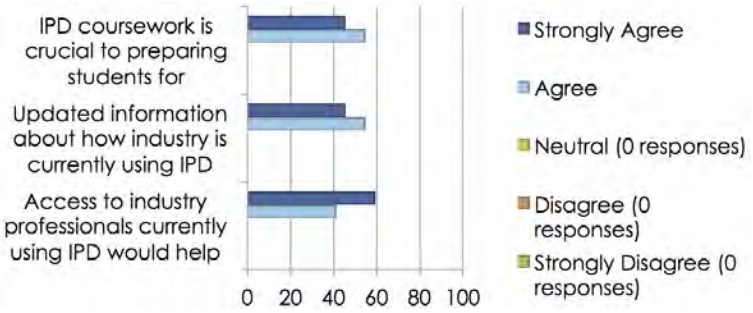
Educator Survey Results:

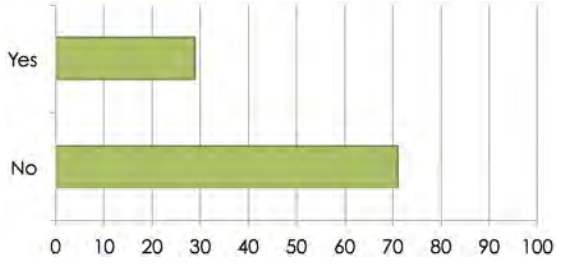
Summarizing the survey, it is fair to suggest that **IPD has become an important topic of architectural education.** As the graphics below suggest, many educators are working to address IPD in the classroom, however, many also indicate that they **require assistance from industry professionals** in order to provide the most **current and relevant education.** The Integrated Project Delivery Theater provides a model for other educators to offer an engaging and cogent introduction to IP and/or Integrated Practice while also **gathering** important **case study information** which could be **further developed** for upper level coursework. The Theater model is designed to make critical introductions while fostering an **ongoing exchange among the educators and practitioners.** Our initiative suggests how other institutions might leverage the often highly coveted and limited guest speaker funding to provide **something more** than a one time presentation.











Have you completed a project under an IPD or Design-Build Contract?

BACKGROUND RESEARCH:

Literature Review

At the end of 2010, the Association of Collegiate Schools of Architecture (ACSA) and Autodesk® partnered to survey administrators at schools of architecture about the use of Building Information Modeling (BIM) and IPD in architecture curricula. With regard to IPD, the focus of the survey was how collaborative design strategies are being implemented in design studios. Of the more than 50 responses, 47% of respondents reported teaming architecture students with students from other disciplines. Responses to another question indicated that when interdisciplinary collaboration does occur, it is most often with engineering. However, the format of the question makes it difficult to distinguish whether that collaboration is at the student, faculty, guest critic, or instructor level. Additionally, the survey asked how IPD is incorporated into the professional practice curriculum. The responses indicate that IPD content is delivered ***predominantly in a lecture-based format*** *centered on case studies. When polled about resources needed to facilitate teaching IPD, numerous comments mention the* ***need for case study materials****. (ACSA, 2011)*

A 2009 survey regarding trends in the Architecture, Engineering, and Construction(AEC) industry sought to ***determine whether changes were being made in construction management curricula in response to changing industry trends****. Of the 43 ASC member programs to respond, 23 programs offered a stand-alone Integrated Project Delivery (IPD) course. Eighteen of the 23 programs indicated the course was a requirement of the curriculum. Twenty-nine programs offered IPD content as part of another course and of those 29 programs, 21 indicated what percentage of the course focused on IPD: one program indicated that more than 50% of the course content focused on IPD, one-third (7 out of 21) reported that IPD content comprised 25%-50% of the course, and the remaining 13 (out of 21) indicated that IPD comprises less than 25% of the overall course content. (Johnson, 2009)*

BACKGROUND RESEARCH:

Our 2014 survey of institutions that are members of the Architecture + Construction Alliance (A+CA), Associated Schools of Construction (ASC), Association of Collegiate Schools of Architecture (ASCA), Building Technology Educators' Society (BTES), and the Society of Building Science Educators (SBSE) found that **nearly 80% of respondents** are already **implementing IPD principles into coursework**, yet **71% of respondents** who teach IPD content **have never completed a project under an IPD** nor Design-Build Contract. Additionally, when asked about their level of knowledge with six topic areas identified in the AIA IPD Guide (process, teams, communication, compensation/reward, risk, and agreements) **60%** of all respondents **indicated an interest in learning more** about the categories of **compensation/reward and risk.** All respondents agreed or strongly agreed that their **teaching would be improved** by both **updated information** about **current industry trends in IPD** and access to industry professionals using IPD.

Conclusions:

These studies, along with numerous others, suggested **a lack of Best Practices** in teaching the emerging content of IPD, IP, and Design-Build. The methodology of this symposium was specifically developed to **offer a best practice** approach to **both** the **active engagement of practitioners** in the classroom and the meaningful teaching and **knowledge generation of** the **students** involved. Evidence suggests **a clear desire** in the academy **to offer educational exposure** to **Integrated Practice, Integrated Project Delivery, and Design-Build.** Difficulties in offering IPD education include: variation in the level of student preparedness, regional practitioner experience, instructor experience, and the institution's curricular framework as it relates to opportunities for interdisciplinary collaboration. These difficulties play a large role in the pedagogy and form of education one may deploy. The majority of educational models, as indicated by the survey, rely on a **lecture format which is well-known to yield a lower level of knowledge generation.**

As we developed the symposium, research and practitioners' experience emphasized the importance of demonstrating the value of cross-disciplinary collaboration through shared problem solving. This educational initiative attempts to **address novice students**, in our case **3rd and 4th** year students of a Bachelor of Architecture, in order to form a **base-line conception** of **collaborative values** as they relate to IPD and how this way of working might bring value to later efforts of professional design and construction. These studies, along with numerous others, suggested **a lack of Best Practices** in teaching the emerging content of IPD, IP, and Design-Build. The methodology of this symposium was **specifically developed to offer a best practice approach** to **both** the **active engagement of practitioners** in the classroom and the meaningful teaching and **knowledge generation of** the **students** involved.

PEDAGOGICAL APPROACH:

An Interactive Theater:

While the host institution has made many special accommodations to enable collaborative education, the team felt the symposium should be designed for mass-appropriation, likely being deployed at institutions that do not have a heavily integrated curricular format. Additionally, it is understood that regional differences/expertise may or may not be readily available in AEC industry partners. With these factors in mind, the team chose to develop the symposium on a **learning module** format, referred to here as ***vignettes***, wherein educators from around the country could couple with industry partners to deliver the content as best suits their capacity.

Based upon an active "problem-based learning" model the pedagogical calls for a **3 step delivery**.

In **step 1** the teaching faculty led discussions about IPD and the theoretical underpinnings of the system. Here content was broadly outlined.

In **step 2** the students undertook carefully designed learning vignettes intended to offer a means of **basic practice**. What is critical in this step is that students are **led to question their experiences**. Active critique of the vignettes, as they relate to the IPD principles, is key to teaching this content well.

Finally, in **step 3** students participated in the **industry-led IPD vignette reviews**. Here the students offered questions and received feedback based-upon industry proven **professional applications**. In this step of education the faculty member coordinated their effort with the industry partners to ensure the student comprehended the direct correlation between the vignette and the first-hand professional experience of this kind of IPD issue.

Much like an ***Operating Theater*** where students **observe the procedure** but **also** the **doctors' behaviors/reactions**, we believe the 3 step delivery and symposium format expose both the **soft and technical skills** of collaboration as modeled by the industry experts.

Operating Theater VS. *IPD Theater*

SYMPOSIUM OVERVIEW:

An Interactive Theater:

While traditional symposia offer an exceptional opportunity to gain exposure to a subject, they often fall short on generating **true learning and knowledge synthesis.** Given this understanding and the knowledge that students, especially young students, hold little tolerance for long-duration lectures, the educators devised a format which is **fundamentally episodic.** This structure ensures that each student is as **prepared** as possible **to receive** and **comprehend** new **material.**

Thursday January 29, 2015

Time	Activity	Location (in)
8:30	Registration	Lobby
9:00	Opening Remarks & Introductions	Auditorium
9:30	Vignette 1 - Process	Auditorium
10:30	BREAK and snacks	Lobby
10:45	Introduce Vignette 2	Auditorium
11:00	Vignette 2 - Teams	102, 102A, 122, 124, Crit space(s)
11:30	Vignette 2 Review	Auditorium
12:15-1:15	LUNCH	On your own
1:15	Introduce Vignette 3	Auditorium
1:45	Vignette 3 - Communication	102, 102A, 122, 124, Crit space(s)
2:45	Vignette 3 Review	Auditorium
3:15-3:45	Closing Remarks, overview of day 2	

Friday January 30, 2015

Time	Activity	Location (in)
8:30	Arrive at	Lobby
9:00	Opening Remarks	Auditorium
9:15	Introduce Vignette 4	
9:30	Vignette 4 - Compensation	
10:30	Vignette 4 Review	
10:45	BREAK and snacks	Lobby
11:00	Introduce Vignette 5	Auditorium
11:15	Vignette 5 - Risk	
12:00	Vignette 5 Review	
12:15-1:15	LUNCH	On your own
1:15	Introduce Vignette 6	Auditorium
1:30	Vignette 6 - Agreements	
2:30	Closing Remarks	
2:45-3:00	Closing Survey	

Diagram of the two day symposium sequence including the three industry co-presenters, lecture sessions, break-out sessions, and small group discussions.

SYMPOSIUM OVERVIEW:

Industry Co-Presenters:

The award winning project team of **Eskew+Dumez+Ripple, Turner Construction, and ADAMS** owners representation served as the industry collaborators who worked with the professional educators to **develop and co-present** the IPD Theater Symposium. Their recently completed **New Orleans Bioinnovation Center (NOBIC)** served as the **case-study** project. The practitioners' combined knowledge and experience with **Integrated Practice** was demonstrated in the **LEED Gold,** NOBIC project which went on to be named by the American Institute of Architects' Committee on the Environment (COTE) as one of the **2015 Top Ten Green Projects this year.**

Jose Alvarez, AIA, LEED AP,
Eskew+Dumez+Ripple, Principal

A native of Caracas, Venezuela, José has worked with Eskew+Dumez+Ripple for more than 12 years. A talented designer and Project Architect with the design responsibility for many of the studio's largest projects, his creative work has lead to dozens of design awards for projects such as the Louisiana State Museum, the New Orleans BioInnovation Center, and the Paul and Lulu Hilliard University Art Museum.

2014 AIA National Architecture Firm Award and 2015 Young Architect Award.

Kevin Overton, LEED AP, BD+C
James Consultants, Senior Partner

As Senior Partner of James Consultants, Kevin brings diverse project management experience to all of the firm's projects. With experience spanning multiple projects and industries, Kevin minimizes financial risk while ensuring safety, quality and schedule efficiency at all levels of the construction project.

James Consultants has worked with the top construction firms in the Southeast and the United States and at every level of the construction process. Past experience includes 11 years Turner Construction, 5 years New South Construction, 7 years Yamaha Motor Manufacturing, 4 years United States Navy.

Brian Bozeman, LEED AP
ADAMS Group, Executive Director

With over twelve years of experience managing the construction delivery process of healthcare facilities and complex capital programs, Mr. Bozeman is responsible for planning, design and construction program oversight and management. He manages large and multiple project delivery teams to provide coordinated expertise, standardized tools and project management advice to the client with duties including mentoring ADAMS team members.

ADAMS has advanced the concept of independent, objective consulting in strategic planning and implementation, owner's representation and program management. ADAMS offers a full range of consulting services necessary to facilitate the successful implementation of any strategic initiative.

VIGNETTE DEVELOPMENT:

Why Vignettes, What do we mean?

The symposium was developed to serve as a **supplemental educational experience** kick-starting the introduction of IPD education via an **exciting** and **inspirational format**. The intention of the ***educational vignette,*** *or learning module,* was simply to allow the activities from the symposium to be redeployed and/or elaborated upon within normally scheduled course offerings. Another reason for this format was the understanding that practitioners are not necessarily educators. While the **experts** are **focused** on **issues of practice,** the **educators** are **focused** on **issues of education.** Given the complexity of IPD and the nuance present in successful collaborative practice, the vignettes relied upon ***accessible scenarios*** being painted for the student participants. Within these **scenarios of design** and **construction** the issues of IPD were brought forth and cogently outlined using **analogical illustration**.

Sample Vignette:

Scenario: An IPD team is considering the window system options available for use in the completion of a 15 story mixed-use tower in Dallas, Texas. With respect to the pro's and con's of the various glazing systems, the team must consider quality, cost, aesthetics, functionality, etc.

Objective 1: Identify Client Wants/Needs for System (value structure), Objective 2: Identify Architects Wants/ Needs for System (value structure), Objective 3: Identify Constructors Wants/Needs for System (value structure), Objective 4: Identify Points of Conflict and/or Divergence, Objective 5: Identify Common Values, Objective 6: Reach a Clearly Appreciable and Defensible Accord

This decision making process could be undertaken in two ways using different student and professional expert coaching groups. In order to illustrate the potential value of IPD one group may undertake this task from a traditional Design-Bid-Build means of communication, including the typical scheduling and decision making hierarchy. A second group would address this issue using an IPD, decision-making format. In such a model, students and experts might identify shared goals and expectations as part of a larger plan for the final realization of the building. Additionally, this acted and observed vignette would be cross-examined by the audience to reveal the contextual situation, thus opening the floor to interactive discussion.

One such discussion may be the value and use of energy target definition as it relates to the realization of a LEED rated building. In such a case, a secondary value structure is introduced wherein IPD experts must identify how their decision regarding the selection of a glazing system may influence subsequent decisions on the type of HVAC system selected. While this vignette is undertaken with immediate regard to the question of the appropriateness of a particular glazing system, the larger discussion is the value of shared expectations and interests. By modeling the decision making process in multiple project delivery methods, there is also opportunity to introduce the different contractual and legal issues associated with the various project delivery methods.

Additionally, students in the audience would be given roles in the mock-IPD meeting. Questions and/or adjustments to the given scenario could be introduced by the audience in order to elicit a change in the decision making and rationale of the experts. These adjustments would be noted by the audience and turned in as a means of assessing student learning and retention.

Topic 1: IDP PROCESS

Vignette 1: Process

The purpose of Vignette 1 was to **demonstrate the differences** between the processes **in Integrated Project Delivery (IPD)** and a more traditional **Design-Bid-Build (DBB)** project delivery method. In order to demonstrate these differences in a relatable context, the symposium creators designed an exercise wherein a **sandwich needed to be assembled** according to certain design, budget and schedule criteria, under both project delivery methods. The resulting DBB sandwich was assembled over schedule and budget with wasted material, while the IPD sandwich was assembled under schedule and budget with no wasted material.

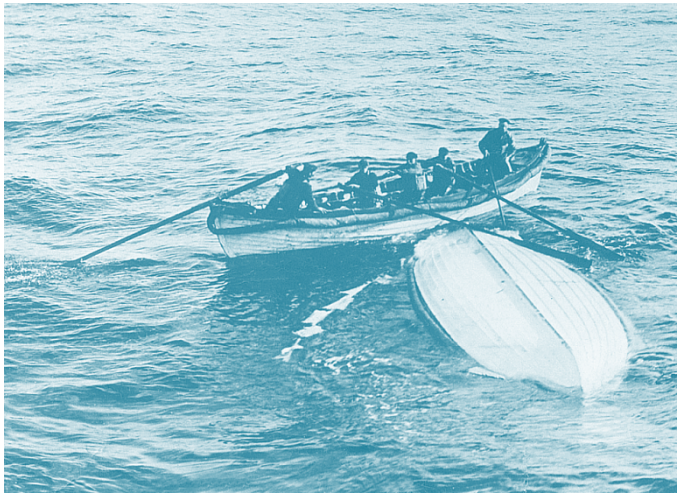
The sandwich analogy allowed students to put abstract principles into practice. It was also a way for students to engage with practitioners, which increased the educational value pressing beyond an audience to presenter relationship.

The industry professionals explain how team determined material selections save time and cost while adding value.

Topic 2: IDP TEAMS

Vignette 2: Team Formation

Vignette 2 was designed to **demonstrate the importance** of the value added by each member of the project team and how important the **selection of the project team** is. For this vignette, the participants were divided into smaller groups and given one of two **survival scenarios**. Each group was provided a list of occupants in a boat but then forced to **select** a limited number of people to pick to fit in a lifeboat based on what **value** they placed on that person's skills and contributions toward survival.



Here students engage in and reflect upon team selection criteria while the educators outline the challenges of having to make a judgment.

Topic 3: COMMUNICATION

Vignette 3: Communication

The purpose of Vignette 3 was to **demonstrate the effect that communication**, or the lack there of, can have on a project. In order to achieve this, the symposium creators designed a vignette in which participants were divided into small groups, with each group receiving instructions about the type and extent of communication that would be allowed. Each group member was asked to **recreate a piece of a larger overall image**. Each group then had to assemble the individual pieces to recreate the overall image. Communication options ranged from group to group. Ultimately, the greater the level of communication allowed, the more the final image produced by both the individuals and overall group represented the original image, and the faster the collective image was assembled.

Very Limited Communication Group:
Isolated work with limited instructions.

Limited Communication Group:
Shared space, limited to written communication.

Intentional Communication Group:
Open communication of any form, clear goals.

Topic 4: COMPENSATION

Vignette 4: Compensation / Reward

Vignette 4 was designed to **highlight the differences in the compensation** structures when comparing IPD and DBB. By using the individual and group paintings from Vignette 3, the symposium creators used performance based assessment criteria to evaluate the paintings. By doing so, the symposium designers were able to demonstrate how those **working under the DBB** scenario stand to **gain or lose as individuals**, regardless of how their group members performed. By contrast, the members of **the IPD group** were evaluated as a group, with the success of each individual being tied to the **success of the group as a whole**.

Output of *Limited Communication* group, i.e. a DBB scenario:

Here students struggle to finish on time and the resulting work shows a clear lack of common values and intentions.

Output of *Highly Communicative group*, i.e. a IPD scenario:

Completed on time and very near to the original image quality / likeness.

Note missing squares are the result of a small team not an error of the team.

Topic 5: RISK

Vignette 5: Risk

During Vignette 5, students were asked to **brainstorm the risks** associated with a familiar task, such as taking a hike of a certain duration in a given location. Volunteers demonstrated how in a **DBB project delivery method** each party was responsible for carrying the weight of the **individual risks** (represented as sandbags in the vignette exercise), even though multiple parties may have the **same risks**. When trying to move about the stage (on their hike) the students we slow and clumsy and in some cases not able to support the weight of the risk in certain areas of the hike path.

The same volunteers then demonstrated how they could **more effectively** physically **support** the weight of the **risks when they worked as a team** to support the sandbags who's weight was now diminished (less redundancy) and spread across the team.

Through this simple analogy, students came to see the **redundancy of the DBB model** as it relates to risk allocation. The cost of each party involved carrying risk verses the IPD model, where all parties agree to not hold each other liable, frees the team to work more nimbly with a **focus on the building rather than their personal successes or failures**. This case study went on to outline the cost savings and how **risk management** is ultimately **related** to **compensation**.

Students pose as Owner, Builder, and Architect carrying numerous forms of redundant risk in the DBB model while the IPD model below shares risk.

Topic 6: AGREEMENTS

Vignette 6: Agreements

This vignette was intended to create a **visual understanding** of the **different types of agreements** among the parties involved in the project. Using a series of resistance bands to represent the contractual agreements among parties in a typical DBB project delivery method, the students were asked to perform a series of tasks, such as communicating a question and answer along the proper contractual lines, to demonstrate how important information is lost when all of the **necessary parties cannot communicate directly** with each other.

Students illustrating the Design, Bid, Build contract associations with one-directional lines of accountability.

Students illustrating the Integrated Project Delivery Multi-Party agreement associations with linked accountability and profit.

Students then performed another series of tasks using a resistance band that represented a **multi-party contract**. The students had to work together to keep their resistance band from falling. Through **team work** and **open communication**, the multi-party contract team was **able to achieve** the given tasks with **more ease** and **accuracy** than the Design-Bid-Build team.

LEARNING OUTCOME SURVEYS:

Pre- & Post- Surveys:

At the beginning of the symposium, prior to the first vignette, the **students** were asked to **complete a survey intended to measure** their **baseline understanding** of **terminology** and **industry standards** for certain scenarios based on a **stated project delivery method.** Seventy-two students completed the initial survey, for a response rate of 87%. The same survey was repeated at the conclusion of the symposium to assess whether the students' understanding of the six vignette topic areas had improved as a result of their participation in the symposium. **Seventy-three students** completed the final survey, for a **response rate of 89%.**

Learning Outcome Post- Survey being administered by one of 6 undergraduate research assistants.

Results:

In addition to basic demographic information, both the **pre- and post-symposium surveys** included a list of six broad terms and asked the students to **rank their level of understanding** of those terms, with possible selections of "I have never heard the term," "I have heard the term but do not know what it means," "I have a general idea what the term means but am not confident I could explain it to someone," and "I am confident I could explain the term and its significance." A comparison of the **"I am confident I could explain the term and its significance"** responses from the pre- and post-symposium surveys is shown in Figure 2, on the next page, while the percentage increase in that response is shown in Figure 3, also on the next page.

In short, the survey results suggest a **dramatic increase** in the **students' understanding** of the terminology and foundational principles of IPD. In some cases, students reported **78% increase** in understanding of a term.

STUDENT LEARNING ASSESSMENT:

Graphic Analysis:

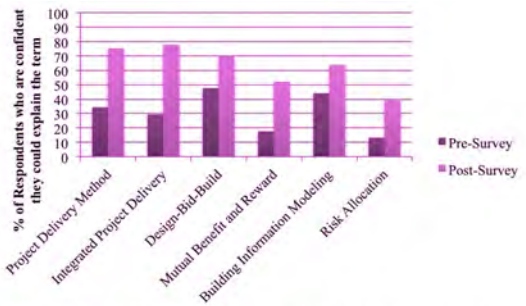


Figure 2. Comparison of pre- and post-symposium survey response rate for "I am confident I could explain the term and its significance."

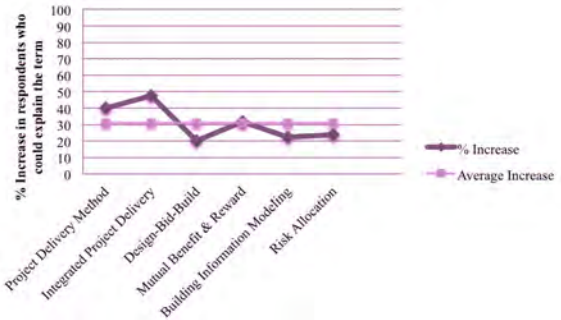


Figure 3. Percentage increase for the "I am confident I could explain the term and its significance" response from the pre- to post-symposium survey.

The pre- and post-symposium surveys also asked the students the same series of questions intended to **assess their initial and final understanding of topical situations related to the six vignettes**. A comparison of the percentage of students who correctly selected the best answer for each question is shown in Figure 4, below.

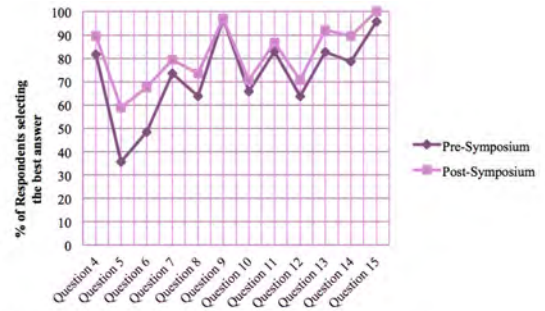


Figure 4. Comparison of pre-and post-symposium response rate for the best answer.

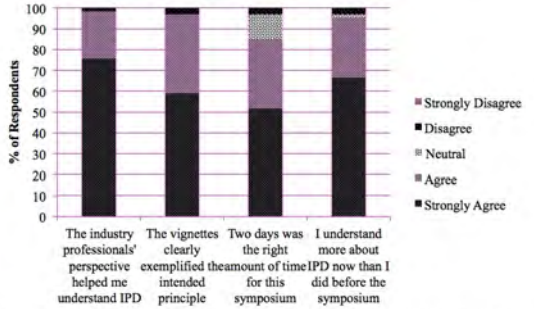


Figure 5. Results of the post-symposium assessment of the event.

Additionally, at the conclusion of the symposium students were asked to **assess the effectiveness of the vignettes**. On a five point Likert scale with five representing "Strongly Agree" and one representing "Strongly Disagree," students were asked to rank four statements regarding the symposium. The results are shown in Figure 5, above.

PARTICIPANT TESTIMONIALS:

Students:

"The Integrated Practice Theater Symposium was educational as well as entertaining. The activities all the students participated in were very simple but clarified the process and importance of communication between members of a team trying to reach the same goal. This method of interactive education seems very effective."

-Kirby Lockard (3rd year Architecture student)

"The IDP theater opened my eyes to a kind of practice that I had never heard of. Starting school I thought the architect was always the one deciding everything. Now I know that it requires a team and while the architect is important, that person can't do it all alone. It [the IPD theater] *will most definitely help me to understand why developing effective teamwork skills is so important to my design process."*

- Hannah Waycaster (4th year Architecture student)

"I finally understand what people are talking about when they say Integrated Practice. I didn't see the big deal about collaboration but seeing how much value working together in the frontend brings to the project in the backend I know now why I need to engage architects when I'm thinking about a projects schedule, costs, and constructability."

- Lake Jackson (4th year Building Construction Science student)

Faculty & Professionals:

"The work of my colleagues is timely and much appreciated. We have been talking about IP and IPD for years but never in the past has our institution done such a thorough and well-planned job of priming our students for appreciating and attempting collaborative means of project design and delivery."

- Assistant Prof. of Architecture Jacob [redacted for submission]

"It was amazing at times to look out among the students in the audience and see the light bulbs turning on above their heads. Seeing collaboration in action and hearing from the professionals that see this stuff every day was priceless. The two day symposium was extremely fun and enjoyable and I am grateful to have been a part of the experience."

- Brian Bozeman, Executive Director, ADAMS

PLAN FOR DISSEMINATION:

Future Applications:

Having completed our Foreground and Background research we believe this **learning initiative** offers **mass utility** to **fellow institutions/educators** seeking to provide a better developed understanding of IPD and other integrated means of project delivery. Building upon **best practices** in the profession and academy our effort rigorously seeks to enable educators and students. The educational effort outlined herein is **currently being offered** to other A+CA institutions with the **hope to present our symposium nationally** to any Association of Collegiate School of Architecture (ACSA) or Associated School of Construction (ASC) member institution.

In addition, the work has been profiled and presented in numerous peer-reviewed conferences with many **colleagues seeking to appropriate the vignettes** developed for the symposium **for use in regular coursework**. We hope to make this work **available in a reproducible form** very soon.

In Closing:

Engaging the profession on **contemporary issues** allows for **timely research and development** to be undertaken for a joint advantage. The ***Integrated Practice Theater*** *symposium* will hopefully serve as an example and catalyst for other educators seeking to better understand issues which may not have been part of their prior professional experience. Working with **outstanding industry leaders** has always been exciting, yet it often proves a daunting task as schedules and education desires rarely align to allow for productive exchange. We believe this **initiative offers a model** which all institutions could easily replicate. The vignette format places **educators** in the **appropriate role** of **teacher** and **pedagogical expert** while allowing the **industry experts** to offer the content they are **best equipped to provide, case studies** in real world **application**.

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