PACÉ
Advisory Board Meeting

Minutes and Discussion
June 3rd, 2010

AE Department Updates: Dr. David Riley & Dr. John Messner

I. AE Department faculty search underway, planning new team
II. Looking at a way to evaluate courses in the curriculum
III. Upcoming Events/Activities
   a. AEI Conference, June 9-11th, 2010
      i. June 10th is “industry speakers” day
      ii. Special presentation on June 10th to remember Dr. Horman
   b. AE Centennial
      i. Dr. Anumba is making great efforts to meet alumni in multiple cities prior to the Centennial Event
      ii. The Centennial Event will be held on July 4th weekend. Information and registration is available on the AE Website.
   c. AE Department-External funding
      i. Dept. of Energy interested in buildings
      ii. $125 million proposal for a DOE Hub Grant was recently led by the AE Department
   d. AE Department awarded grants for:
      i. Combined Heat and Power Center
      ii. Solar Market Transformation
         1. Undergraduate solar courses
         2. Research center
            a. Will train instructors
      iii. Smart Grid workforce
   e. AE dept is becoming more visible at PSU
      i. Seen as good investment for PSU
      ii. Money is coming in through buildings, unexpectedly

IV. Center for Sustainability/AE Updates
   a. Hands on experience & construction experience for students
i. Students leading other students

V. MorningStar Updates
   a. Moving to new site this summer
      i. Can find master site plan in CfS brochure, if needed
   b. Fundraising
      i. Target small gifts

VI. Other AE Department Updates
   a. Had many successful projects this past year
      i. BIM Execution planning project
         1. U.S. Army Corp of Engineers adopted it
      ii. Virtual Construction Simulator
         1. Allows students to plan out construction process and implement their plans
         2. Well received in courses
         3. Use this technology to improve student understanding of construction process
      iii. Virtual Prototyping Projects
         1. Virtually experience construction and design before actually implementing

PACE Updates: Dr. David Riley

I. Participation and Membership
   a. Had a strong year, new faces and good interaction
   b. Maintained strong based for contributions and membership

II. Annual Contributions
   a. Used for:
      i. Support of student activities
      ii. Field trips and experiences for students
      iii. Participation of students in national events and competitions
      iv. Paid internships
      v. Matching funds for outside proposals

Dr. Horman Memorial Fund

I. Honoring Dr. Horman
   a. BBQ Memorial
      i. privately funded
   b. Updates
      i. Basic design
         1. Provide outdoor grilling space at morning star home
a. Could serve as banquet function (30-40 people)
b. Seating, grilling, & stone fountain a possibility

ii. Looking to gain industry/personal support to raise funds and awareness

iii. Will dive further into design after input from industry

iv. Plan to have more design and funds by Fall 2010

v. Students will reach out formally to industry members

vi. Students will reach out to other AE students with strong ties to Dr. Horman for involvement
   a. Side note: Lee Evey seems very interested

vii. Why use stone?
   1. It was donated

viii. Fundraising Ideas
   1. Donation Challenge
      a. Industry members make in-kind donation matching what the students raise
   2. Tailgate
      a. Provide free food, generate awareness & ask for donations
   3. Make announcement at football games to check out new site

c. Other ideas
   i. Set up private account to collect donations
   ii. Create Dr. Horman Memorial subpage on PACE website
      1. Recognize donors on this page
   iii. Endowment would include maintenance of memorial site
   iv. Use Roundtable to show industry members the site

Feedback: 2009-2010 Year

I. Prospect for IPD Thesis
   a. Goal to run 3 year trial programs
      i. Run 3 groups thru IPD/BIM thesis approach
         1. Have some type of quantitative, measurable results
   b. Where is it going?
      i. Two approaches (group and individual thesis)
         1. most were impressed by group thesis
      ii. Run another year of it, then reevaluate and make a formal decision
   c. Disadvantages of group thesis
      i. Giving up the individual thesis
      ii. Students seem to get frustrated with group courses
         a. However, feedback has shown good learning experience
      iii. Owner role for IPD/BIM thesis missing
   d. Observations of Group Thesis
      i. Group Thesis
         1. Need scheduling
a. Nothing to force people to meet their dates
2. Need real incentive for students to get work done
   a. When teams didn’t meet deadlines, there was no consequence

ii. Individual Thesis
   1. Easier to do individual thesis because of no group pressure
   2. Thinks group thesis give students real world benefits
      a. Group work is real work experience like in industry

iii. Constraints outside of team
   1. Confidentiality issues

iv. Have teammates rate themselves at end of course
   1. Impacted grade

v. BIM Studio
   1. Three evaluations throughout semester
   2. Challenge: fit new approach into old approach
      a. Example
         i. Deadlines
         ii. Students doing too much
      b. Must be addition to learning experience, not additional learning experience

vi. High caliber technical training is polished during 5th year experience
   1. Faculty needs to be able to manage it in a different way

vii. Some students did not connect in the group
   1. Overall, students had a practical mindset which will help them later down the road in industry

e. Suggestions for Group Thesis
   i. Mandated deadlines are important for real world and for thesis
   ii. Must manage commitments
   iii. Measure the team's ability
   iv. Hand picking candidates may be better
      a. Some things aren’t for everybody, don’t want students stuck in where they don’t want to be

v. Group thesis really isn’t for everybody
vi. Don’t want it to take students longer
vii. Should be pitched as a privilege for students to be involved
viii. Construction Management students are more exposed to BIM/IPD
      1. Other curriculums do not talk about it as much
      2. Mention more in other curriculums for more participation
ix. More collaboration means better results
x. Selective idea is good, but those who do not get it will not move along and will be left behind

f. Other opportunities for student collaboration other than group thesis
   i. BIM studio
      1. There should be as many teams as construction students
      2. Combine projects between AE 472 and AE 476
ii. Could be a benefit to students because they are likely to be asked to work in IPD teams in the industry

iii. Once students see that industry values team work, it will change
   1. Have industry drive this message home

iv. Who at Thornton Tommasetti can send this message?

v. Action:
   1. Get this feedback to Chimay, cannot ignore it
   2. Add owner into mix

II. More Industry Involvement in Courses
   a. Students have “grade-only” mindset
      i. Don’t want them to worry about the numbers
      ii. Get students thinking about their future a year earlier
         1. Fifth year project
         2. Use 4th year summer in preparation for fifth year
   b. AE 476
      i. General interest from industry to teach
      ii. Feedback from industry members who have taught course
         1. Not enough Q&A interaction
            a. Students should ask real life questions
   iii. Student Feedback
      1. Students thought course was still in development
      2. Benefit of industry members teaching class is huge
         a. John Bechtel’s classes
            i. Talks about meetings outside of class
               1. Generates student interest
      ii. Article reviews
         b. More duct work review
      3. Testing not connected to information taught during class
      4. Implement readings prior to class
      5. Video lectures may gain more interest than reading lectures

**Industry: What should we be doing?**

I. Inclusion of females and diversity in industry

II. Map flow of data

III. Creative approaches to the methods used to fund projects

IV. IPD
   a. Variations of IPD?
   b. What types of public projects is it being used on?
   c. Center of Health paying more for IPD
   d. Different contracts have different terms
   e. Different owners apply it differently
   f. Design-build has risk
i. IPD's risk is shared from owner to contractor
   1. Shared risk and reward=true IPD
g. What is the collection of tools that teams are being asked to assemble to make that culture go?
h. Why do owners choose the project deliveries methods that they do?
i. How do you shift the “build me a building quick and cheap” mentality?
j. Must overcome initial resistance, and drive it home that technical ability will get them thru the door
k. Team work/dynamics
   i. If one part of team doesn’t function, must pull person out and replace
   ii. Benefits team as a whole
l. Need a way to collect data to measure good behavior
   i. Team evaluation based on eqi to measure functionalities and disfunctionalities of team
m. Owners more reluctant to use IPD- need to continually be educated on benefits of IPD and play on that team
n. Five points to drive home at a conference about why IPD is useful
   i. Develop this!
o. Cost and importance to owner of integrated projects/ how they receive them
   i. IPD delivery may develop this
   ii. Owner needs to define early “what would you do with a model?” if we gave it to them
      1. If you don’t use it at the end of the day then they shouldn’t pay for it
p. More interaction with facilities managers
q. How do we convince people to integrate IPD/BIM use?
   i. How do we study this?
   ii. What does everyone actually need?
      1. Do not need too much information about this
      2. Simplify BIM models for owners-
         a. Do not need everything!
   iii. Measuring innovation
      1. Spot patterns
      2. Collect innovation measures to apply is to sustainability
         a. How much “innovation” relates to sustainability

V. Energy Technologies
a. Wind turbines
b. Incorporate visible sustainability that is cost effective
c. What are the new things that are happening globally that we could facilitate in the U.S.?
d. Culture change and technology change working together
Final Thoughts

I. Themes of the day
   a. Integration and innovation
   b. Concept of collaboration
      i. Of industry as a whole
      ii. This industry needs a voice (in D.C.)
         1. Lee’s presentation
   c. Culture Change Needed
      i. We can change if we want to, but it will last a short period of time- if you figure out how to change American’s nature

II. 2011 Advisory Board Meeting
    a. Idea
       i. Industry members could possibly bring an intern