

People I Wish I Had Met Before Graduating™ Speaker Series for Construction Contracting Course*

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Presented in this paper is a description of the guest speaker series model established in a long-standing civil engineering course at the University of Michigan in Ann Arbor. In the Winter 2010 semester, the author launched an industry based guest speaker series called People I Wish I had Met Before Graduating™ to further enrich the educational experience of students in CEE 431, Construction Contracting. Success of the series based on student testimonials and surveys led to its recognition by the Civil and Environmental Engineering Department as a valuable resource and its utilization by fellow faculty in CEE 431 and other departmental initiatives. Among the contributions of the speaker series are the creation of a faculty resource containing a description of the series and its correlation with the curriculum and course objectives, a library of speaker topics relevant to professionals and academicians in the industry, a roster of speakers and established key talking points, a template for a student resource packet, and a survey. Typically, speaker series are offered in seminar-type courses. The model presented in this paper differs in that the speaker series had to be selectively assembled and incorporated into a traditional course with a specific, pre-defined curriculum such that it became an integral and meaningful part of the overall educational experience. This was the first time a guest speaker series had been established for CEE 431 at the University of Michigan, representing a significant change to the standards of practice. There is no documentation available to verify how widespread this practice is for comparable courses at other institutions, suggesting that it is uncommon. The following sections discuss the rationale behind the speaker series; provide a course description, including, curriculum and objectives; describe the speaker series model, including topics, structure and, the series application by others; present students' assessment of the series through testimonials and surveys; and offer conclusions.

Keywords: industry guest speakers; engineering education; construction engineering and management; construction contracting

1. Introduction

1.1 Why a guest speaker series?

In the 1994 national report, *Engineering Education for a Changing World*, recommendations were made to ensure that engineering education be “relevant, attractive and connected”, including collaboration with the industry, offering students a multi-disciplinary perspective, and preparing students for the “broadened world of engineering work” [1].

In the Winter 2010 semester, the author was presented with the opportunity to teach Construction Contracting based on a format that had been pre-defined and set for many years. While the existing course material was informative and comprehensive, it was a challenging assignment for the following reasons:

- The course is, by its very nature, verbose and laden with legal jargon.
- It has the potential/reputation for being dry and theoretical.
- Most of the students have no to limited construction experience.
- Most of the concepts and terminology are new to the students.

Regardless of their subspecialty, students will likely

encounter and apply topics learned in CEE 431 in practice. The author's strategy was to find ways to get students excited and interested in the course material and to communicate its necessity and relevance to their respective careers, whether in the industry or in academia, without “lecturing them about it”. The intent was to empower students in two ways: understanding *why* they were being taught a topic and considering *how* a topic could be applied in practice and/or research.

There are a number of publications that highlight the value of stimulating student interest [2], linking the curriculum to the “real world” [3, 4], active learning [5], and setting meaningful goals and context for students [6]. To address the course's challenges, the author developed and introduced a variety of teaching methods and tools into the course for the first time, one of which was the design and integration of an industry-based guest speaker series titled, *People I Wish I had Met Before Graduating™*.

The series presents an opportunity for students to witness the course in action by gaining first-hand knowledge of professional practice, interacting with key industry players, and reflecting on perspectives that are sometimes limited in the academic setting. The series also provides breaks from traditional lecture that bring variety to the course.

This paper discusses the guest speaker series model established and sustained since 2010 for CEE 431, Construction Contracting.

1.2 Course description

Construction Contracting is a four credit hour course offered by the Civil and Environmental Engineering Department in the Fall and Winter semesters at the University of Michigan in Ann Arbor. The lecture portion consists of two meetings per week at one and a half hours each. The laboratory component is held once a week and consists of a semester-long detailed cost estimating project, accounting for one credit hour. It is taught independently by a Graduate Student Instructor and is not addressed in this paper.

Enrollment numbers range from fifties to sixties and include graduate and undergraduate students from various civil engineering subspecialties, many of whom are required to take the course, urban planning, architecture, and other engineering / design disciplines.

The course curriculum offers a practical overview of construction contracting fundamentals. The following topics are covered in the sequence shown, with some degree of overlap:

1. Structure of industry, parties to construction contracts.
2. Construction contract types, parts of an agreement, project delivery methods.
3. Design phases and documents: drawings, project manual, types of technical specifications.
4. Ownership of design and construction businesses, management of construction firms.
5. Estimating and cost accounting (primarily covered in laboratory project).
6. Contract documents and timing pertaining to: competitive bidding process, contract award, construction progress and completion.
7. Project planning and scheduling.
8. Dispute resolution.
9. Insurance.
10. Bonds.

The course objectives as defined in the Accreditation Board for Engineering and Technology (ABET) profile are:

- (a) To understand project and construction vocabulary, entities, relationships, ethics.
- (b) To produce, read, and understand design and construction contracts and construction documents.
- (c) To learn basic construction detailed estimating, cost accounting and control, planning and scheduling processes (primarily covered in laboratory project).

- (d) To understand the relationships and responsibilities among owners, architects, engineers, construction managers, prime contractors, sub-contractors, and vendors.
- (e) To understand construction (i) bidding, (ii) licensing, business formation, and ownership, (iii) insurance, and (iv) bonds.

With the course curriculum and objectives as a basis, the following section describes the guest speaker series model and illustrates its correlation with each of the curriculum topics and course objectives.

2. Teaching-learning methodology: description of guest speaker series model

2.1 Overview

The speaker series title, *People I Wish I Had Met Before Graduating™* is in itself a message to students and is highlighted on the first day of class. The faculty resource created for the course consists of the following:

- A library of six construction contracting topics relevant to professionals and academicians in the industry.
- Established key talking points for each speaker presentation to ensure quality and compatibility with the course (key points are also used as a guide for potentially new speakers).
- A roster of qualified and supportive speakers from the industry.
- A semester-long structure that directly correlates speaker topics with (i) curriculum topics in the same sequence they are taught in lecture (including specific chapters in the textbook and course pack), and (ii) course objectives.
- A student resource packet template easily updated each semester to reflect the latest topics and speakers.
- A standard student survey to assess the speaker series.

The student resource packet includes a personalized letter and is posted on the course website at the beginning of the semester to describe the purpose of the series, topics for the semester, relation between speaker topics and the course curriculum (including textbook and course pack chapters), key talking points for each of the topics, bios of current speakers, and, a section recognizing past speakers that have contributed to CEE 431. With minor updates, the student resource packet is replicated each semester by the current faculty member. Figure 1 shows a sample cover letter of the student resource and lists the goals that were the main driving force behind the creation of the speaker series.

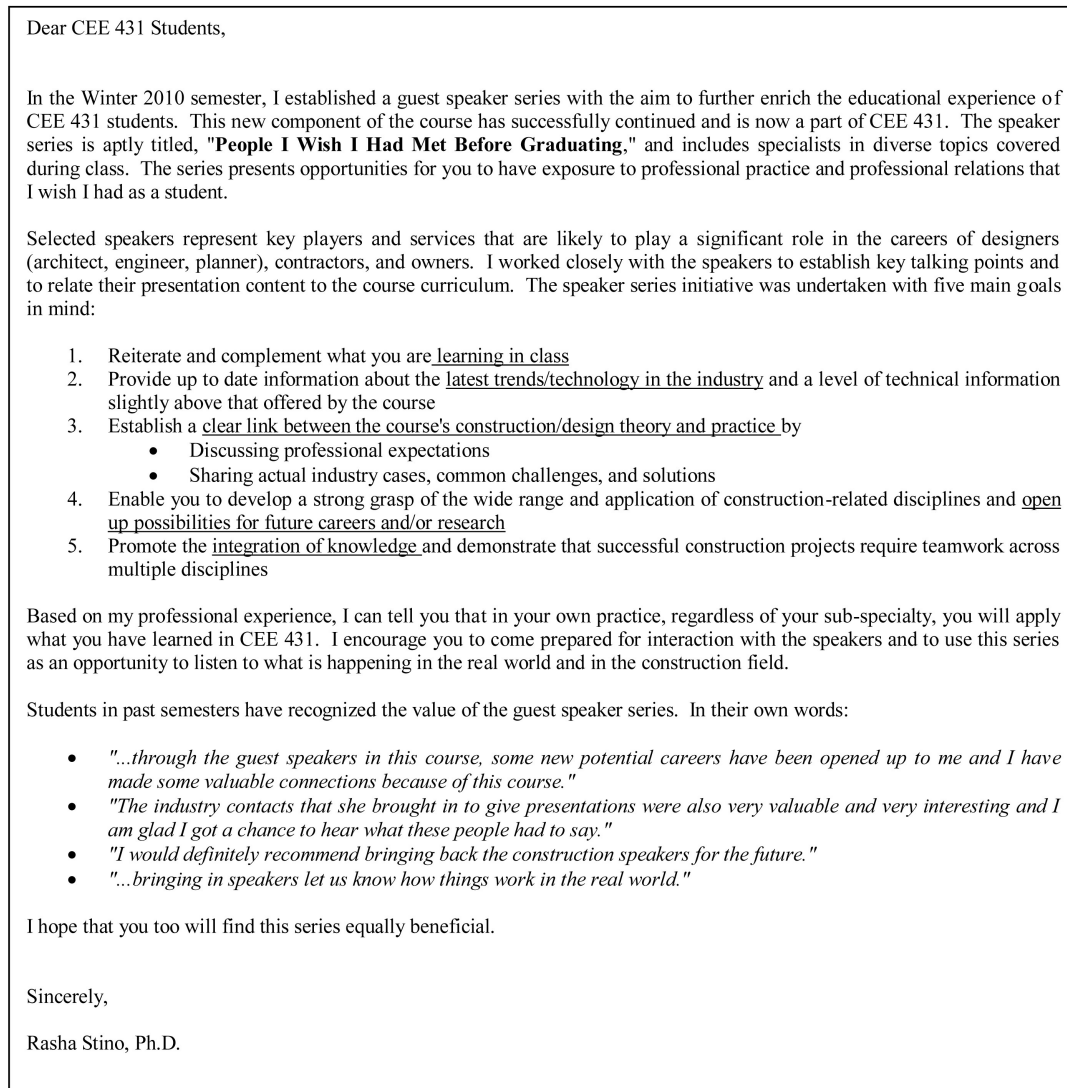


Fig. 1. Cover letter of the student resource packet describing guest speaker series.

2.2 Speakers, topics and structure

The series includes specialists in traditional and non-traditional construction contracts and project delivery methods, significant software developments that have impacted relations between parties, architecture, construction management, competitive bidding process, construction claims and dispute resolution, and risk management, including, insurance and surety bonds.

Selected speakers represent key players and services that are likely to play a significant role in the careers of designers (architect, engineer, planner), contractors, and owners. Time was dedicated to identifying and contacting potential speakers, establishing key talking points and reviewing presentations ahead of time so that presentation content was connected to the course curriculum and objectives. With each semester, speaker presentations and key talking points were further developed

and refined based on the author's observations, student feedback and present students' interests that were assessed at the beginning of the semester in an informal survey. Guest speakers were not recorded or videotaped to allow them to speak freely and comfortably about their businesses and projects.

Six speaker series topics were established, giving faculty the flexibility to select and incorporate any number and combination of topics. These topics included:

- Topic 1: Integrated Project Delivery (IPD) and Building Information Modeling (BIM) Software in Construction.
- Topic 2: Design Phases and Role of Architect / Engineer (A/E).
- Topic 3: Role of General Contractor / Construction Manager at-Risk.

- Topic 4: Owner's Perspective on Competitively Bid Projects.
- Topic 5: Alternative Dispute Resolution.
- Topic 6: Construction Insurance and Surety Bonds: Risk Management Tools.

Table 1 shows three elements that appear in the faculty and student resources: the list of six guest speaker series topics, relevant course-pack and textbook chapters, and, a sample of the established key talking points for each of the speakers. The "Comments" column is provided for the purpose of this paper.

2.3 Correlation with course curriculum and objectives

An important achievement of the speaker series is breaking up the course for students into easily identifiable, digestible segments, where an academic component (lectures and related textbook and course-pack chapters) is followed by a practical and more challenging industry-based component (guest speaker and in-class discussion). To make this breakdown meaningful to students, the selection and sequence of speaker topics was directly correlated with the curriculum topics and their chronology as taught in class lectures, and, the course objectives.

Table 2 indicates the correlation of each speaker topic with the curriculum and course objectives respectively. Shaded boxes under 'Relevant Course Topics from Curriculum' show the primary course topic(s) covered by the speaker, secondary topics are marked but not shaded. Note that the sequence of speaker topics and sequence of curriculum topics covered in class lectures (1 through 10) progress in parallel.

Core topics and objectives, such as, *1. Structure of industry, parties to construction contracts*, and, *A. To understand project and construction vocabulary, entities, relationships, ethics*, are reinforced by more than one speaker. *Topic 1 Integrated Project Delivery (IPD) and Building Information Modeling (BIM) Software in Construction*, is intentionally selected to challenges all things traditional and predominant in the construction industry and curriculum, including forms of contract, project roles and relations, design phases, and scheduling methods. It demonstrates some of the latest software technology and trends in the industry. Having completed topics 1 and 2 of the curriculum and an optional introduction to IPD and BIM in class lectures, students are sufficiently prepared to appreciate the impact of the first speaker topic.

To take full advantage of the series, students were encouraged to come prepared for interaction with speakers and to increase their awareness of what is

happening in the real world and in the construction field. In-class discussions and debates were held in subsequent lectures to encourage student feedback and to compare guest talks to the traditional course materials (textbook, course pack), current news headlines, and, selected articles and videos.

2.4 Application by other faculty

The speaker series has been modeled and documented in a faculty resource as described in section 4.1 such that it can be easily replicated in whole or in part by interested faculty. Furthermore, faculty has the flexibility to re-invite past speakers, add new speakers, and, structure the series in a manner that is most suitable to materials emphasized in a particular semester. This was demonstrated in the Winter 2012 semester when the faculty member teaching CEE 431, having heard of the series' success from students, selected the following two topics and their speakers:

- Topic 1: Integrated Project Delivery (IPD) and Building Information Modeling (BIM) Software in Construction
- Topic 4: Owner's Perspective on Competitively Bid Projects

3. Evaluation and results of the guest speaker series

Two methods that are based on student feedback were used to evaluate the impact of the guest speaker series. The first was the standard, Web-based, end of semester Teaching Questionnaire system (TQ) that is prepared and controlled by the Office of Evaluations and Examinations at the University of Michigan. While there is no specific question about the speaker series, students often share *comments and testimonials* about aspects of the course that they liked or disliked. The second method of evaluation was a five-minute, in-class, paper-based, end of semester *guest speaker survey* prepared by the author and processed by the Civil Engineering Department, shown in Figure 2. The guest speaker survey was administered for the first time at the end of the Winter 2012 semester.

3.1 Comments and testimonials

Students in past semesters have consistently recognized the value of the guest speaker series and offered valuable suggestions in comments shared through the TQ system and e-mails to the author. One student in the Winter 2010 semester, when the series was first implemented, suggested shortening speakers' talks. This was immediately addressed by combining some of the more technical topics, such as insurance and bonds, into a panel of speakers,

Table 1. List of six possible guest speaker series topics, relevant chapters, sample of the established key talking points, and, author's comments

Topic #	Topic Title Relevant Chapters in Course Pack/Textbook	Sample of Key Talking Points	Comments
1	Integrated Project Delivery (IPD) and Building Information Modeling (BIM) Software in Construction. <i>Introduction and Design Phase/Chapters 1 & 4.</i>	<ul style="list-style-type: none"> • Case study selected to illustrate the latest trends and technology in the construction industry, specifically multi-party contracts, or Integrated Project Delivery (IPD) principles, and the application of Building Information Modeling (BIM) software. • Successful innovative features include a record number of parties to an integrated form of agreement (multiparty/IPD contract), shared gain/pain (profit/loss) between parties, phased design review and application of lean construction principles. 	<ul style="list-style-type: none"> • First speaker in the series is an Engineering News Record (ENR) Top 25 Newsmaker. • Topic intentionally selected to challenge all things traditional and predominant in the construction industry and curriculum, including forms of contract, project roles and relations, design phases, and scheduling methods. It demonstrates some of the latest software technology and trends in the industry. • Students are provided with some background on BIM and IPD prior to the guest lecture.
2	Design Phases and Role of Architect/Engineer (A/E). <i>Design Phase/Chapter 4.</i>	<ul style="list-style-type: none"> • Emphasis: graphical walk-through of an actual project's design phases illustrating evolution of design information and level of detail, design options, and, basis for significant design decisions. • For each of Pre-Design, Design, Tendering/Procurement (bidding/negotiating), Construction, and Post-Construction/Facility Management stages: <ul style="list-style-type: none"> – Overview of A/E contractual responsibilities and scope. – Description and samples of documents managed and/or produced by A/E, including drawings, technical specifications, other contract documents, RFIs, shop drawings. • A/E relationship with owner and contractor; basis for fees; management of design firm. 	Principal of local, award-winning design firm.
3	Role of General Contractor/ Construction Manager at-Risk. <i>Introduction, Estimating and Bidding, Contract Documents and Construction Contracts—Timing. Chapters 1, 5 & 6.</i>	Due to the wide range of contractor scope and responsibilities (whether in the capacity of General Contractor or Construction Manager at Risk), sub-topics are selected from relevant chapters and vary from semester to semester. Topics include, <i>Pros and Cons of Negotiated/Cost-Plus vs. Competitive/Lump Sum Contracts; Risk Management; Estimating and Bidding Practices; Management of Subcontractors; Business Strategies and Market Conditions; Contractor Relationship with Owner and A/E.</i> Format is intentionally unstructured to maximize student-speaker interaction.	Panel consisting of President and President/ Project Manager of sister construction companies.
4	Owner's Perspective on Competitively Bid Projects. <i>Contract Documents and Construction Contracts—Timing. Chapters 5 & 6.</i>	Walk-through/simulation of competitive bidding process, highlighting specific documents and events as taught in lecture and as would take place in reality. Plus, what are owners really looking for in construction and design firms?	Speaker is Associate Director for Design and Construction Activities for an established owner entity. Lectures prior to guest speaker introduce students to the competitive bidding process via an in-class game. Scope is intentionally limited with speaker to elements of the competitive bidding process covered in relevant chapters of the course but remains fairly comprehensive.
5	Alternative Dispute Resolution <i>Dispute Resolution Chapters 6 & 10</i>	<ul style="list-style-type: none"> • American Arbitration Association (AAA) overview, role in construction dispute resolution. • Mediation and Arbitration rules, procedures, benefits, and limitations, particularly as compared to each other and to litigation. • Case studies illustrating successes and failures of various parties in construction disputes and claims. • Students are encouraged to take note of presentations and to ask questions about actual construction arbitration cases in preparation for in-class mock arbitration sessions. 	Panel consisting of senior representative of local AAA office and an attorney with experience as a mediator/arbitrator (neutral). This has proven a successful combination of speakers because it balances discussion of AAA's rules for resolving construction disputes with case studies from the industry. An earlier setup in Winter 2010 where AAA representative and attorney spoke separately was less efficient in the author's opinion.
6	Construction Insurance and Surety Bonds: Risk Management Tools. <i>Insurance and Contract Bonds/Chapters 7 & 8.</i>	Insurance and Surety Bonds are separate topics discussed by a panel of two specialists. Highlights include: <ul style="list-style-type: none"> • Selected construction insurance types; indemnification clauses and related coverage; insurance policy/coverage samples; case studies of insurance claims. • Three main types of contract bonds (bid bond, performance bond, payment bond); role of surety; case studies of contractor default. • Risk management tips for designers and contractors. 	Panel consisting of two experts on insurance/ risk management and surety bond programs representing the branch office of an insurance brokerage firm.

Table 2. Correlation of speaker topics with the curriculum and course objectives respectively. Shaded boxes under *Relevant Course Topics from Curriculum* indicate the primary course topic(s) covered by the speaker; secondary topics are marked but not shaded. Note that the sequence of speaker topics and sequence of curriculum topics covered in class lectures (1–10) progress in parallel. Core topics and objectives, such as, 1. *Structure of industry, parties to construction contracts*, and, A. *To understand project and construction vocabulary, entities, relationships, ethics*, are reinforced by more than one speaker.

Speaker Topic	Relevant Course Topics from Curriculum†										Relevant Course Objectives (ABET)‡				
	1	2	3	4	5	6	7	8	9	10	A	B	C	D	E
1. Integrated Project Delivery (IPD) and Building Information Modeling (BIM) Software in Construction	•	•	•				•				•			•	
2. Design Phases and Role of Architect / Engineer (A/E)	•		•	•		•					•	•		•	
3. Role of General Contractor / Construction Manager at-Risk	•	•		•	•	•	•				•	•	•	•	i, ii
4. Owner's Perspective on Competitively Bid Projects	•	•				•	•				•	•		•	i
5. Alternative Dispute Resolution								•			•	•		•	
6. Construction Insurance and Surety Bonds: Risk Management Tools									•	•	•			•	iii, iv

† Course Topics from Curriculum, shown in sequence that is covered in class lectures

1. Structure of industry, parties to construction contracts.
2. Construction contract types, parts of an agreement, project delivery methods.
3. Design phases and documents: drawings, project manual, types of technical specifications.
4. Ownership of design and construction businesses, management of construction firms.
5. Estimating and cost accounting (primarily covered in laboratory project).
6. Contract documents and timing pertaining to: competitive bidding process, contract award, construction progress and completion.
7. Project planning and scheduling.
8. Dispute resolution.
9. Insurance.
10. Bonds.

‡ Course Objectives (ABET)

- A. To understand project and construction vocabulary, entities, relationships, ethics.
- B. To produce, read, and understand design and construction contracts and construction documents.
- C. To learn basic construction detailed estimating, cost accounting and control, planning and scheduling processes (primarily covered in laboratory project).
- D. To understand the relationships and responsibilities among owners, architects, engineers, construction managers, prime contractors, subcontractors, and vendors.
- E. To understand construction (i) bidding, (ii) licensing, business formation, and ownership, (iii) insurance, and (iv) bonds.

each with a twenty to thirty minute time limit, and simplifying the content. Students in their own words have indicated the following:

Fall 2011 Semester

- TQ, Student 7: . . . *through the guest speakers in this course, some new potential careers have been opened up to me and I have made some valuable connections because of this course.*
- TQ, Student 9: . . . *well organized used class time well and did a great job of relating the course concepts to the real world and bringing in guest speakers.*
- TQ, Student 10: *I learned a lot this semester in this course, and I really enjoyed the speaker series. Thank you!*
- TQ, Student 12: . . . *The industry contacts that she brought in to give presentations were also very*

valuable and very interesting and I am glad I got a chance to hear what these people had to say . . .

- TQ, Student 13: . . . *I found it very rewarding how she related everything in class to the real world and really made a point to emphasize the importance of each topic. I also enjoyed all the insight and advice she had for her students about real world practices from her past experience. Furthermore, I enjoyed her guest lectures and found them very interesting . . .*

Fall 2010 Semester

- E-mail: *I wanted to thank you, while I was thinking about it, for making the effort to make your class engaging and related to what's happening in the field right now . . . Your course is by far the most related to the real world that I have taken, and it makes it so much more enticing to come to class and pay attention.*

- E-mail: *I really enjoyed this class (a lot more than I had initially thought I would!). I really enjoyed your style of teaching and felt that I learned a lot more than I would had I been “forced” to learn the material for a stressful exam. I never thought I would say this (especially since my foci in Civil are structural and geotechnical) but I’m actually considering emailing the contact from . . . for the construction rotational program.*

Winter 2010 Semester

- TQ, Student 6: . . . *Most students really appreciated that she brought in speakers, because she really tried to give an industry perspective of the topics . . .*
- TQ, Student 8: *Bringing in speakers was a great idea, and sometimes it was really helpful... Maybe have the guest speakers speak for a shorter time? (unless it’s rude to ask them to come all the way only to speak for 30 min)*
- TQ, Student 9: . . . *I also thought that the use of guest speakers was both enlightening and informative.*
- TQ, Student 10: *While the material was dry and dull, I appreciated that you attempted to keep our interest with speakers and other events that helped to keep the class awake . . . I would definitely recommend bringing back the construction speakers for the future.*
- TQ, Student 15: *Although this class covers a lot of very dry topics . . . I think that Dr. Stino was also very good at getting us to see the “big picture” by trying to tie topics together and bringing in speakers to let us know how things work in the real world.*

3.2 Guest speaker survey and results

The speaker survey was administered for the first time at the end of the Winter 2012 semester where another faculty member teaching the course had implemented topics 1 and 4 of the speaker series. Thirty-nine students out of a class of fifty-three completed the survey with the results of Question 1 shown in Table 3.

With only two guest speaker topics presented, the majority of students, 74% to 97%, still indicated their satisfaction with the speaker series. Twenty-one and Twenty-six percent maintained neutrality on two of the categories, *Alerted me to potential professional/research possibilities*, and, *Is something I would recommend for future semesters*. One student out of thirty-nine respondents indicated dissatisfaction with understanding the application of selected course concepts to the construction industry. It would have been helpful if neutral students and the single dissatisfied student had offered suggestions for improving the series by commenting under Questions 2 or 3.

Students’ top answers for Question 2, *Course concepts that the speakers helped you see the application of to the industry*, were bidding process, BIM concept, scheduling, and, role of A/E’s, which closely matches the curriculum correlations shown for topics 1 and 4 in Table 2.

4. Future issues

Over the past four semesters, consideration has been given to introducing pre and post series surveys to assess students’ changing perception of topics, assigning homework or a paper based on the series, and, incorporating a construction site visit. The decision thus far has been to avoid overwhelming students with an additional course load and frequent requests for feedback. Instead, students have simply been encouraged to attend the series, interact with speakers, and share ideas and feedback in class or via direct communication with the faculty member.

Understanding exactly “why” and “how” contact between academia and the industry promotes teaching-learning results is challenging as has been addressed in a number of studies that describe the difficulties of conducting rigorous and scientific engineering education research [7–9]. Some of the specific challenges that apply to CEE 431 Construction Contracting are:

- The nature of the course is such that it consists of a series of stand-alone, non-cumulative topics. There is no actual evolution or build-up toward an end-product or project making it insignificant to demonstrate a student’s grade evolution, for example.
- It would be unfavorable to eliminate the guest speaker series in order to compare what students learn under more conventional methods, i.e., “without speaker series” versus “with speakers series”.
- Multiple tools, including the guest speaker series, have been introduced by the author into the course to *collectively* enhance students’ learning experience. It is difficult to single out and determine with certainty the individual impact of each of these tools on students’ learning.

Looking to the future, a more focused guest speaker evaluation strategy is being developed for the Fall 2012 and Winter 2013 semesters where students will be asked in class to very briefly consider and reflect on what they have learned at the end of each speaker session. This more targeted approach will potentially replace the single guest speaker survey that was administered at the end of the Winter 2012 semester. Another evaluation tool under consideration is the inclusion of guest speaker related ques-

CEE 431: Construction Contracting		Semester: Fall / Winter 20__			
Guest Speaker Series Evaluation					
The Guest Speaker Series represents an educational component of CEE 431 first introduced in Winter 2010. The purpose of this survey is to obtain your assessment of the speaker series' success and to identify where improvements can be made. It is not necessary to provide your name on the survey. Thank you for your participation.					
1. Overall, the guest speaker series*:					
Was informative	SA	A	N	D	SD
Alerted me to potential professional/research possibilities	SA	A	N	D	SD
Helped me understand the application of selected course concepts to the construction industry	SA	A	N	D	SD
Is something I would recommend for future semesters	SA	A	N	D	SD
2. Please list at least 3 course concepts that the speakers helped you see the application of to the construction industry:					

3. Additional comments / suggestions:					

* SA - Strongly Agree, A - Agree, N - Neutral, D - Disagree, SD - Strongly Disagree					

Fig. 2. End of semester guest speaker series survey form for students.

Table 3. End of Winter 2012 semester guest speaker series survey form for students showing number of responses and percentage of responses (%) under Question 1

Overall, the guest speaker series*:	SA	A	N	D	SD	Total
Was informative.	7 (18%)	31 (79%)	1 (3%)	0 (0%)	0 (0%)	39 (100%)
Alerted me to potential professional/research possibilities.	4 (10%)	27 (69%)	8 (21%)	0 (0%)	0 (0%)	39 (100%)
Helped me understand the application of selected course concepts to the construction industry.	10 (26%)	26 (67%)	2 (5%)	1 (3%)	0 (0%)	39 (100%)
Is something I would recommend for future semesters.	11 (28%)	18 (46%)	10 (26%)	0 (0%)	0 (0%)	39 (100%)

tions in the course examinations to test students' comprehension of topics covered.

5. Conclusions

In summary, feedback over the course of four semesters indicates that the guest speaker series, *People I Wish I Had Met Before Graduating™* was successful, appealing and quite satisfactory to students.

To be successful, engineers are required to participate in, understand, and lead diverse teams of professionals. Exposure to this reality and an

awareness of the complexity of construction contracting issues prior to graduation is particularly valuable. I have had students begin the semester by saying that they 'just want to do design' and then turn around by the end of the semester to recognize and appreciate just how much the legal aspects touch upon each and every sub-specialty in the building industry.

My personal experience in both academia and the industry has strongly influenced my decision to collaborate with the industry on a course as vital as construction contracting. I believe that acquiring the dual perspective of industry and academia in

engineering subjects is empowering and I even encourage my CEE 431 students to share their newly attained viewpoint and practical exposure during job interviews.

Ultimately, the message to students is that what we are learning about and discussing in class is real, practical, and will influence your careers. It is my hope that future students will benefit from the guest speaker series and will continue to believe that “. . . bringing in speakers let us know how things work in the real world” (Student comment, Winter 2010).

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