AC 2012-3524: THE UNWRITTEN SYLLABUS

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The Unwritten Syllabus

Introduction

Undergraduate engineering students change radically from when they begin their training to when they complete their studies and graduate. They take a significant set of courses focused on specific areas of engineering and emerge as novice practitioners, ready to start a new set of learning in the world at large. But they also often change in a more subtle way. Students usually have gained a degree of personal and professional maturity by the time of their graduation.[2] They are more *seasoned*, often more organized and better capable of coping with a multitude of problems simultaneously and they are often more expressive. The change is usually described as *maturing*, which is certainly a portion of the reason for the shift. They have added 4 to 5 years of age and have accumulated some of the wisdoms that come with that age. It is believed that much of the change occurs during the first year of school, enabling students to become polished during their upperclass years.[12] But are the changes just from the benefit of this increased age? Would they change as much if not for the indirect lessons imparted by their instructors and institutions?

Some of the skills acquired are results of direct training, such as improved speaking and writing skills.[4] There are documented formal methods to enhance these skills. Other skills, however, are forms of additional personal growth of students that may be the result of the indirect, undocumented values, ethics and beliefs they acquire while at school, that is, the lessons from the Unwritten Syllabus. These other skills, frequently described as soft skills, are often discussed by both teachers and human resource personnel for employers.[7] This set of soft skills, such as personal accountability and greater work ethic, is not subject to defined teaching methods. There are clearly benefits to acquisition of these skills, but it has been a challenge to describe the methods and techniques used to achieve success in these skills and the list of these skills varies from source to source. The Unwritten Syllabus may encompass skills such as intellectual curiosity, caring for others, ability to overcome obstacles and more. In addition, many of these soft skills are being successfully learned and transferred to the students.[6,12] The focus of this work is on what is not being learned, what is still lacking as students move through our programs.

An example of the Unwritten Syllabus can be found in lessons learned by first-year students grappling with course policies and procedures that are different than they have previously encountered. Course policies may be listed in the written syllabus or may only be explained verbally at the start of a semester. An example of a new procedure deals with the oft-repeated question: *"When is it due?"* High school teachers often take on the role of 'reminder-in-chief', posting due dates in the classroom and frequently pointing them out. This does not match the adult role of knowing when a task is due, planning the work and delivering a result on time without these outside reminders. A course procedure that changes that behavior can be one where the due dates and requirements are published once, available to be reviewed anytime by students and then not discussed at all in class. This process shifts the onus of knowing what is due on what day squarely to the student. When the answer to the "When is it due?" question becomes, politely, "it's posted online", that question stops within a few weeks of the semester start. The lesson learned is that the student is responsible to find the information themselves and act on it.

The paper will present the initial results of research necessary to frame the objectives, methods and outcomes of the Unwritten Syllabus which deliver these desired skills to students. Ultimately many points of view will be investigated, including students, instructors, advisers and potential employers. The first results which are presented in this paper are from faculty with feedback on both the skills they are setting out to teach or model, and, more importantly, how they are accomplishing this. The data collected defines the core set of attributes and outcomes. The sample is from full-time teaching faculty, tenured faculty, experienced to novice teachers, across all student levels. This will lead to research questions that ultimately could allow a better understanding of how to develop and deliver the lessons of the Unwritten Syllabus.

Background

ABET has been driving the inclusion of soft skills since the early 2000s. In the latest set of criteria approved in October, 2011[1], ABET continues with General Criteria #3 listing 11 outcomes required for graduates. The list encompasses soft skills such as the ability to communicate, the ability to work on a multidisciplinary team and the ability to engage in life-long learning. While the skills specifically listed by ABET are important for new engineers in the workplace, there are additional skills needed by students to successfully transition through undergraduate studies such as time management and elements of personal responsibility. Although this research focuses on an unwritten syllabus, some of these skills are listed in syllabi throughout engineering curriculum. For the most part, though, traditional engineering courses focus on learning objectives for the technical skills, with potentially only some of the soft skills outlined. The classic list of soft skills is found at careerbuilder.com (Lorenz[3]). This list starts with a strong work ethic and positive attitude, which are challenging to teach. The more teachable skills include good communication skills, time management, problem solving skills, and teamwork skills. Shuman, et al[8] have a long list of skills, but some of the top skills are listening, decision making, problem solving, communication and time management. They concluded that soft skills can be taught, albeit not through traditional lecture means and a degree of mentoring is recommended in the workplace, if possible. They tended to see the skills enhanced through experiential project work. Similarly, Parker and Anderson[5] at the University of Wisconsin deleted specific lectures on time management and team work skills in favor of having students do appropriate project work to learn these same skills in a trial introduction to civil and environmental engineering course. Vasko, et al[11] concluded that once a project experience was concluded, soft skills such as life-long learning could be adequately assessed by student survey techniques. Tallon and Budny[10] took a different approach in adding specific public speaking and writing components to the two freshman introduction to engineering courses at the University of Pittsburgh, though continued practice through various course and university activities was also encouraged. In summary, the background indicates that both lecture methods and practice methods are used to improve this set of soft skills, and that surveys of student cohorts over time are the preferred method of assessment and that there is evidence of change in undergraduate students over time.

Multistep Approach

To both identify the key soft skills perceived to be important and not currently being learned by the students, and to then codify classroom techniques for enhancing these skills, a multistep approach for this investigation is used in order to inform future work. A multistep approach is used because each step directs the next, and although these are seen as the steps now in our plan, our research may alter these. The steps are a) identifying the key attributes or skills that may be seen as lacking in students, b) validating that student's perceive these as problems, c) researching methods to improve or overcome deficiencies and then d) assessing degree of change for validation. To launch this work, the first phase was done and presented here that identifies what is perceived as lacking in the behaviors and skills of engineering students by faculty and to see how this faculty perceives student changes over the course of their time in college.

To implement this first phase, a survey was done of a representative sample of engineering faculty at Northeastern University, described shortly. The engineering curriculum at Northeastern University is divided into a common year for first-year students and then specific focused coursework as they enter the different academic departments, starting in sophomore year. There is value in contrasting what the first year instructors see as well to what the upperclass instructors see and whether any changes can be seen across that transition time. The representative sample of instructors for the first survey has been selected to be mixed gender, mixed teaching experience level, mixed course-year taught and mixed department so as to get a cross section of opinion without attempting to elicit responses from the entire engineering faculty. The expectation is that the results of the survey will help guide further work to validate issues and search for effective teaching methodologies.

The Survey

The survey used is shown in Appendix A. The survey was done using the online survey tool SurveyMonkey®. The survey gathered basic demographic data from engineering faculty respondents and then asked 4 key questions: What non-technical skills do students need?, What skills are they lacking?, What skills do faculty attempt to teach or instill? and How do faculty accomplish that result? The survey was mindfully kept simple and direct to avoid issues such as validity or reliability errors. The critical choice for data gathering was the survey respondent audience, which was carefully designed to avoid gender, age, technical subject or experience bias.

The selected faculty members were split among gender, years of teaching experience, first year vs. upperclass instructors and also split among departments. A total of 41 surveys were sent out. A total of 23 responses were received (Figure 1). An average of 56% of surveys was answered, with females answering at a slightly higher rate of 60% versus males at 53%. As can be seen, the respondents have a similar gender split as the original requested survey group.

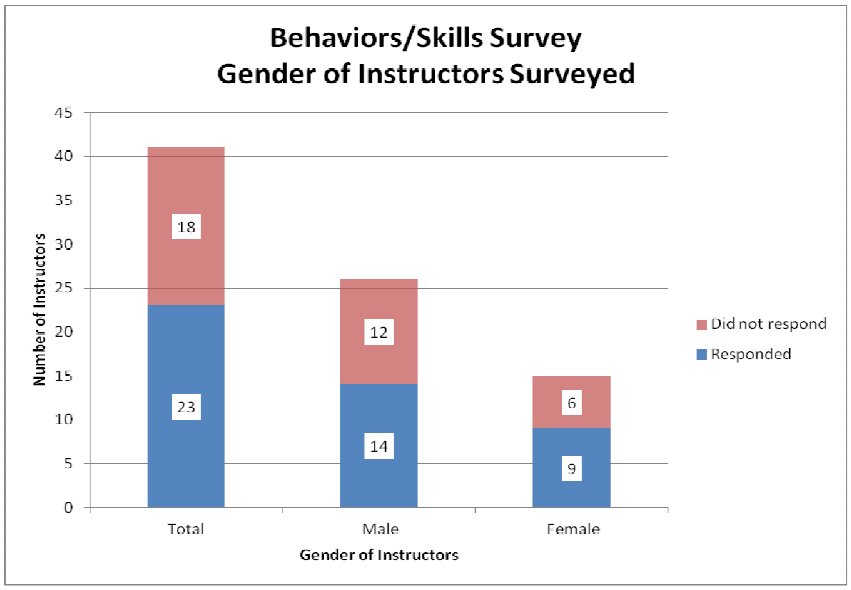

Figure 1

The survey respondents came from the first year instructors (known as Gateway Faculty) and from the four academic departments of the College of Engineering. As can be seen in Figure 2, the respondents were split across all areas of the college, with the highest response rate coming from Gateway instructors.

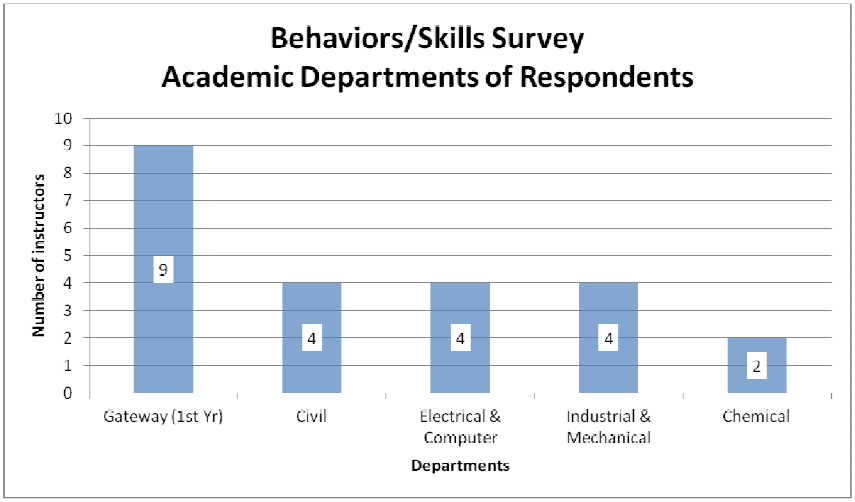

Figure 2

Overall Results

The 23 respondents generated 67 entries in the question asking to list the top three non-technical skills lacking in their students. The replies were short statement freestyle answers, so numeric analysis techniques were not directly applicable. Instead, a TQM-based technique was used that is specifically designed to assemble and summarize disparate language-based data. The freestyle answers were grouped in KJ Method style[9] where the individual data statements were sorted into groups based on commonality of theme. Then, group subject titles were written to represent the essence of the freestyle points in each group (Appendix B). The complete KJ diagram was not done, as analysis was then done at the subject group level and so a single global summary

statement representing all of the data was not needed The 67 entries were summarized in this way to a set of 11 statements indicating the student skills observed lacking. Figure 3 shows the 11 skills and the respective percentage of times mentioned in the survey.

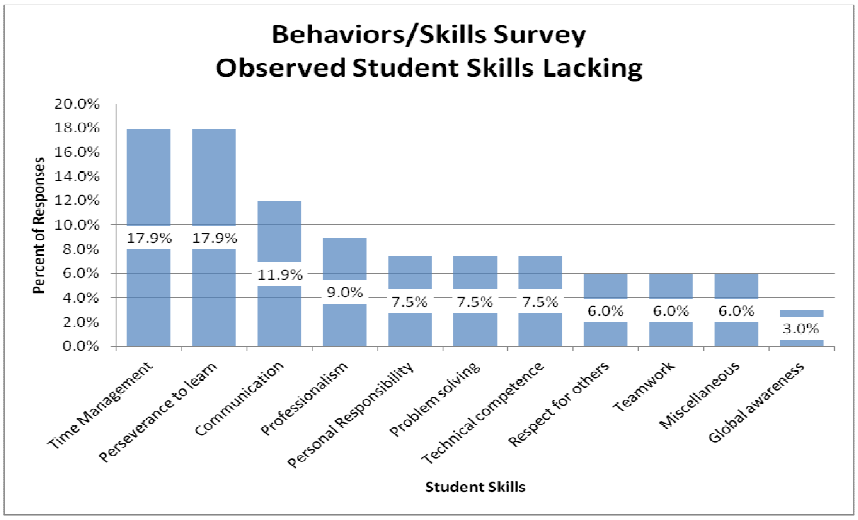

Figure 3

The skills lacking are listed here, in declining percentage order:

Time Management (17.9%)

Time management was mentioned as one of the top two skills lacking in students. The freestyle comments mentioned just this phrase multiple times. Other comments mentioned not submitting assignments on time and not being able to manage due dates. The thrust of time management was linked to ability to organize school work so as to submit it on time. One comment focused also on the quality of work – “Accomplishing good work on time”.

Perseverance to learn (17.9%)

This category was the other top skill reported in the survey. The freestyle comments had several ideas here. A common thread was having curiosity in different areas and being willing to go outside of one’s own sphere of knowledge, to challenge oneself to learn something new. This is clear in the comment: “Self-initiative in seeking help when needed (recognizing that getting help is OK)”. The other main ideas were to engender a desire and ability to keep learning over one’s entire life, not just for the period when a student is in school. Clearly, lifelong learning is seen as a requirement for a successful engineering career.

Communication (11.9%)

Communication is the oft cited skill combining both written and oral communication. Clarity and precision in engineering communication was noted here as well. Anecdotally, this is a comment heard frequently at meetings of first-year instructors and other faculty meetings. There has been much talk about the lack of skill in technical writing from this “texting” generation, and a continual focus on ways to improve this.

Professionalism (9.0%)

The freestyle comments focused primarily on professional ethics. This would include knowing, understanding and following the appropriate codes of conduct for engineers, as well as legal regulations. Pride of work comments were also included in this category.

Personal Responsibility (7.5%)

Personal responsibility was described by comments focused on being responsible for your work and for your actions – 'responsibility for their own education and actions". This can be an element of professional conduct, as above, as well as honesty, timeliness and thoroughness. One comment mentioned not missing class, another form of personal responsibility.

Problem solving (7.5%)

Problem solving had two characteristics in the survey. The first was a focus on achieving results. Always deliver, do not allow problems to stop you. The second related point was having the creativity and drive to work though the problems to achieve the results. For some, this is not a soft skill, but a necessary engineering skill, and perceived as more easily taught.

Technical competence (7.5%)

Though the survey was specifically asking about non-technical skills, a minority of responses held technical skills, particularly mathematics, to be so critical and so lacking that they were entered here in lieu of other student attributes.

Respect for others (6.0%)

Comments concerning respect for others were aimed at all levels of interaction. Respect for peers was mentioned as was respect in the classroom for instructors. Simple elements of courtesy, such as cell phone manners, are included here.

Teamwork (6.0%)

Abilities to work successfully in a team environment and to exhibit leadership in a team were in this category. Students are constantly asked to succeed in team situations, prompting these skill requirements.

Miscellaneous (6.0%)

The miscellaneous category contained several responses that were not successfully able to be grouped into the major categories. These responses included being able to correctly cite works, having ambition(!), being able to see deception in an argument and being involved in class activities.

Global awareness (3.0%)

The last category focused on engineers being aware of the linkage between their work and the needs of the society at large. It was a surprise at first that so few respondents mentioned this, but, on reflection, it may indicate that this is not a skill or attribute particularly lacking in today's more globally aware student body. This is assumed to be a good omen!

Discussion of Pareto application and Use of this Analysis tool

In classic pareto analysis, the top issues will be investigated and work done on those, with the hope that 80% of the issues are contained in a relatively few categories (20%). In this analysis, 80% of responses are contained in the first 7 of 11 categories, or 63% of categories. This is not as steep a curve as typically desired. Focusing on up to 5 categories yields 64% of responses which will be our starting point, given the flatter curve. The lack of steepness might be viewed as problematic, as it usually occurs in data analysis as a result of inadequate stratification of data into categories. The goal of stratification is to yield the classic 80/20 split, allowing focus on driving issues. Here we have a different case where the stratification arose from the freestyle comments alone and was not chosen ad hoc by the investigators. As such, it is a testament to the shared views across all the faculty respondents that the curve was steep at all and that a few categories appeared to standout above the rest as important.

Results by subgroup

As noted, the representative sample of faculty was purposely arranged to cut across gender, experience and class year taught. Each set of subgroups is analyzed to better understand what differences may be present in assessment of students and what changes may be occurring as students move through their education.

Gender

The responses were separated by gender and plotted again in Figures 4 and 5.

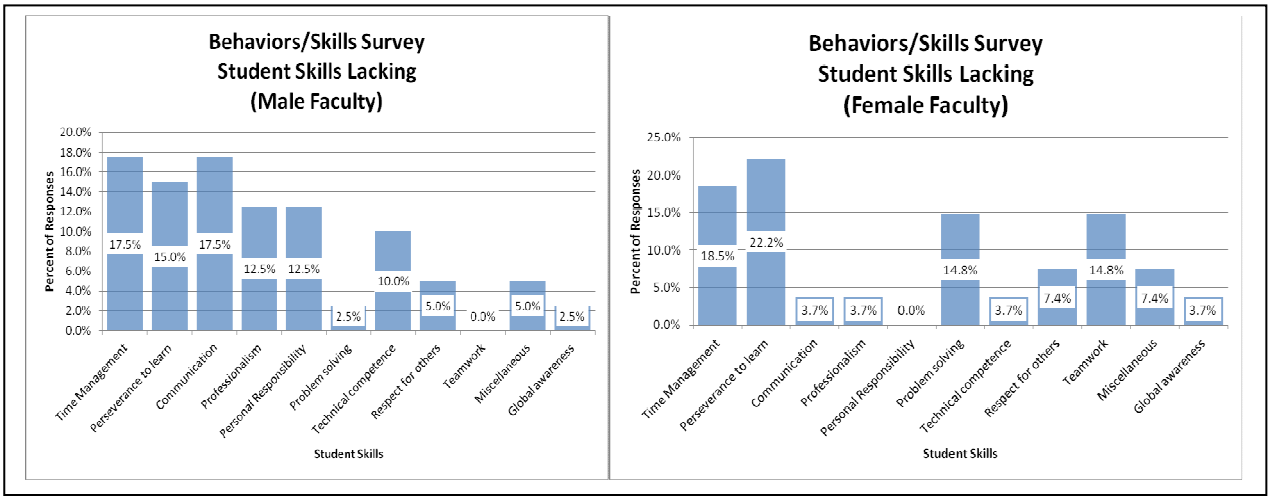

Figure 4 Figure 5

Male and female faculty both had high percentages of responses for time management and perseverance to learn. Both genders observed this to be issues for students across all their classes. The difference between male and female faculty shows across the next few categories. Male faculty continued to also hold communication skills and professionalism as key lacking categories, with 12.5% of responses in each category. Female faculty, on the other hand, observed low need for these issues, instead favoring problem solving and teamwork, with 14.8% of responses. It may be variations in style or content of courses prompting these differences or the inability of faculty to prompt good outcomes in areas they see as needing more student skill.

Faculty Years of Experience

The data was again split, this time according to years of experience. The median years of experience for all respondents was 12 years. A subgroup (junior faculty) was formed consisting of instructors with 1 to 12 years of experience and a second subgroup (senior faculty) was formed consisting of instructors with 13 or more years of experience. Since this was done around the median, each group was approximately equal in size.

The data was again plotted and is shown in Figures 6 and 7.

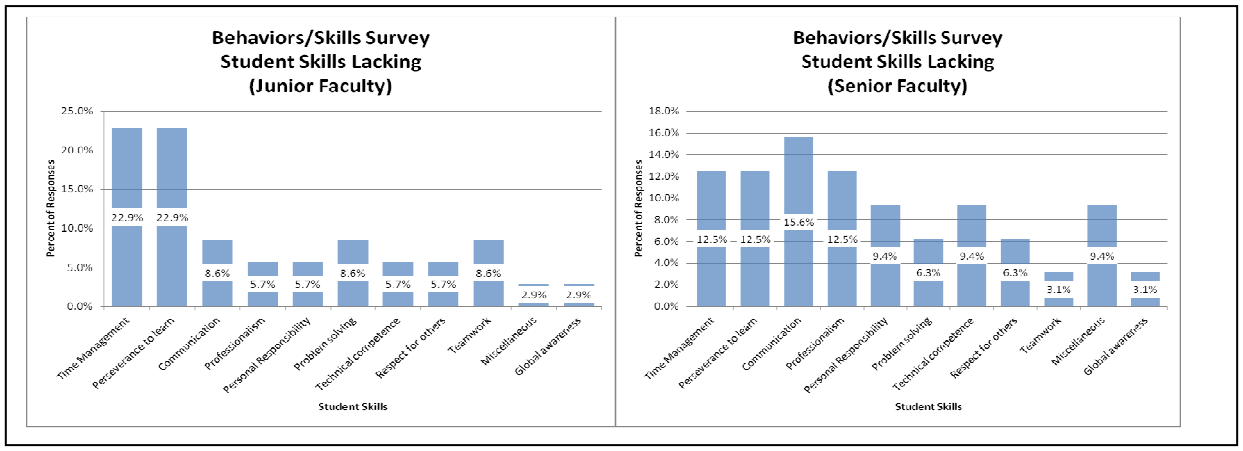

Figure 6 Figure 7

Again, both sets of faculty saw time management and perseverance to learn as the significant skills lacking in students. However, it is interesting to note that junior faculty had almost twice the percent of responses in these categories as senior faculty. And that senior faculty had a more diverse spread across other skill categories than the junior faculty. This may be due to the correlation between junior faculty and the level of course they teach. Junior faculty teaching freshman or sophomore classes are seeing the most significant weakness of their students in their time skills and their interest in learning. It may be that this is endemic to students early in their higher education careers, not yet having seen the value they can derive from the experience. The opposite may be true with senior faculty, having more courses with more seasoned students, and seeing, therefore, a broader mix of issues still unresolved.

Class Year Taught

The final split of the data was to separate responses by what class year was being taught. The two categories were freshman instructors and upperclass (sophomore and beyond) instructors. The graphs for these subgroups are shown in Figures 8 and 9.

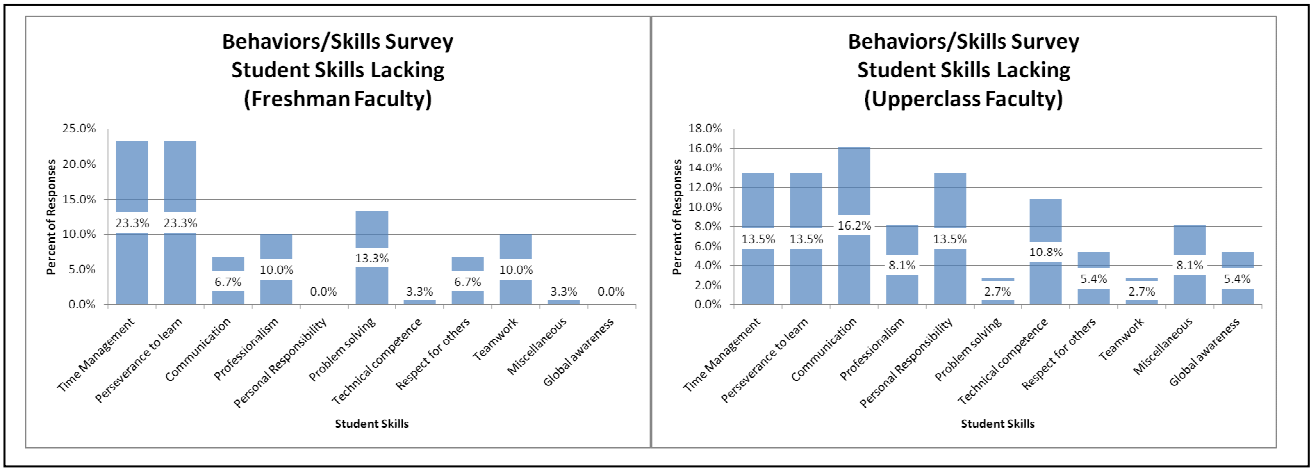

Figure 8 Figure 9

Once again, the freshman instructors have almost twice the response rate for time issues and drive to learn, while the upperclass instructors have a broader set of student issues. Freshman instructors do not see technical competence significantly lacking, as one would not expect freshman to enter college already being at the highest level of ability, especially in subjects such as mathematics, so necessary in the upper year subjects. Additionally, teamwork in the freshman year is a bigger issue, as the students may only have varied amounts of team experience entering from high school and may not be adept yet at solving conflict and getting things done in that setting. As they move to the upperclass years, teamwork is less of an issue, likely because of the push to give them that training by experience.

Methods Used to Address Lacking Skills

The survey also asked each respondent to list the teaching methods they used to address the skills and attributes they saw as significantly lacking in their students. Taking the top two categories of student skill, time management and drive to learn, the survey collected a set of techniques used by these instructors. These will be reviewed to give some flavor of how people are trying to address the issues.

Time management

To instill a better understanding of the need for time management, the instructors described a variety of techniques. These are summarized as follows:

1) One large assignment per week.

2) Having short quizzes randomly to monitor attendance.

3) Set due dates for work with grade penalties deducted for late work. Depending on the degree of lateness, no credit may be awarded. Instructors also mentioned talking to students with chronic late work problems.

4) Due date posted once, not constantly reviewed in class.

5) Projects assigned with long lead times. Help students learn how to track and plan a project.

6) Multiple overlapping projects are assigned, each with different amounts of work and time allowed.

7) Breaking projects into smaller deliverables. For less experienced students, assigning due dates for interim work. For more experienced students, allowing them to set their own due dates for deliverables.

8) Set course expectations and requirements to match what will students will see when they are working. Stress is placed on effective writing, meeting deadlines and being ready to work when required.

These time management training techniques can be grouped into several sets. The first set of techniques is *penalty-based (numbers 3, 4, 7, 8)*. Grade deductions, dates posted once, meeting work deadlines are all types of penalty-based approaches. Students are prodded into managing time so as to not lose grade points.

The second set of techniques might be called *calendar management (numbers 2, 5, 6, 8).* Assigning multiple projects that overlap, having long lead times for work while having smaller assignments completed inside that longer work window, helps drive students to manage their time across days and weeks. One desired image is students carefully planning out when they will spend time working on the longer project and allowing work time in between for such daily work as may occur. The alternative (possible reality) is the student attempting to do every assignment the night before it is due in an unsuccessful manner. Students often start at the negative extreme and slowly work toward the ideal model.

The third technique is a form of *deliverables management (numbers 1,7)* . This is where the work is sufficiently large so that some interim milestones can be established. Someone, either the instructor or the student (or a student team, most likely) sets specific targets for the interim work to be completed, ensuring that enough interim work has been completed to allow the whole of the project to be submitted on time. While instructors drive this technique, the hope is that students will learn to apply this technique on their own to large scale work.

<u>Perseverance to Learn</u>

In perseverance to learn, the following techniques were listed by instructors:

1) Having assignments require outside research from web sources. Do web searching together in class.

2) Try to model learning as an instructor, reward it in others, illustrate through story and discussion, and generally praise it in proper perspective

3) Broaden lectures with related information taken from other topics, examples, stories and current events.

4) Stress learning aspect of education, not grades. Present examples of related learning in class.

5) Leaving some spot blank on the slides so that they are compelled to ask about it. Do not post solutions to quiz/homework so that if they want to know about it, they come to office hours

The perseverance to learn techniques also fall into several sets. The first set might be called *learning by doing (numbers 1,5)*. Here students are assigned tasks that require them to dip into the wider net of outside knowledge, often through web sources. They may be shown how to do this, if specific search techniques are used or may be only given a general search assignment.

A second technique is *learning by example (numbers 2,3,4)*. Here instructors set themselves as examples of how to think more broadly and gather outside knowledge. This may range from showing examples of work done by instructors to giving current events examples on related topics at the start of a class. The model is of the aware engineer, operating in a wider sphere than just the subject at hand.

Both the time management and the perseverance to learn techniques summarized are examples of individual instructor attempts to drive enhancement of soft skills in their students. The techniques are not organized or taught as a way for the broader group of instructors to help drive student skills.

Conclusion

The goal of our work was to learn from a representative group of engineering faculty what soft skills they see as most lacking in their students and have them provide a summary description of how they help enhance those weaker skills. The survey data was also separated to see what effect, if any, gender, faculty years of experience and class year taught had on changes in the observed skills lacking in students.

The overall survey yielded 11 different skills, with the top 5 skills representing 64% of responses. Those skills are:

Time Management (17.9%)
Perseverance to learn (17.9%)
Communication (11.9%)
Professionalism (9.0%)
Personal Responsibility (7.5%)

Gender of instructor had no effect on the first two categories, though there was some inversion in several remaining categories. Faculty years of experience and class year taught both had the same outcome where time management and perseverance to learn were seen as lacking at twice the rate for junior faculty/freshman faculty as for senior faculty/upperclass faculty. The remaining categories of skills were more evident as issues in the senior faculty/upperclass distributions and generally lacked detection in the junior faculty/freshman distribution.

A conclusion may be drawn that freshman students suffer most from a lack of time management skills and from an undeveloped sense of the adventure of learning.

Several sets of techniques were described by faculty to remediate the top two soft skill weaknesses, though there was no coordinated approach as to how to accomplish improvement in a larger body of students.

Recommendations and Next Work

Codification of the Unwritten Syllabus, what it means and how best to deliver the appropriate lessons to students, is the overarching goal of a set of work suggested in the introduction. The work is to fully explore what soft skills are most important and are perceived as lacking and then identify techniques by which these skills may be successfully enhanced in students. This first work helped gather some insight into faculty perceptions of skills lacking and now can lead to a next research question. Considering this multistep approach , a possible next step to continue this work would be validation of any weakness among the students. In other words, how do they view themselves? Do they think they can juggle small and large assignments from multiple courses well and get work done efficiently? Do they focus only on what they are specifically asked to accomplish or have any broader view of learning a subject?

Assessment of a cohort of students via student survey would help establish a baseline position. This would allow subsequent work on establishing techniques to then be measured relative to that baseline.

Given a set of skills that faculty sees as lacking and that students then validate as troublesome for them, further work can be done to both accumulate current methods for particular skill enhancement as well as brainstorm of any new techniques. Trials may be developed for skill development and outcomes measured based on student survey and faculty assessment.

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Appendix A

Skills/Behaviors Survey
Fall 2011

1. Gender:

☐ Male ☐ Female

2. How many years have you been teaching?

3. What department are you in?

- ☐ Chemical Engineering
- ☐ Civil and Environmental Engineering
- ☐ Mechanical and Industrial Engineering
- ☐ Electrical and Computer Engineering
- ☐ First-year Engineering Faculty

4. What courses do you primarily teach? Also indicate the student-year of this course for your top 4 courses (taught frequently or recently).

Course

Student-year

Course

Student-year

Course

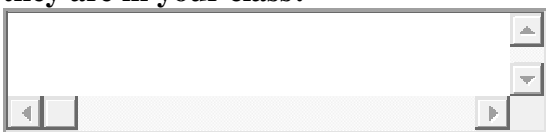
Student-year

Course

Student-year

5. Aside from technical knowledge and skills, what non-technical personal skills and behaviors do you think are important for engineering students to obtain during their undergraduate years?

6. What non-technical personal skills and behaviors are the student's most lacking when they are in your class?



7. What are the top three skills or behaviors you try to teach or instill in your student's?

Skill/Behavior 1

Skill/Behavior 2

Skill/Behavior 3

8. Method to accomplish 1 (or any of the above):

9. Method to accomplish 2 (or any of the above):

10. Method to accomplish 3 (or any of the above):

Appendix B

Be good at time management
Skill/Behavior 1 - Time management
Skill/Behavior 2 - Meeting time commitments
Skill/Behavior 3 - Time management
Skill/Behavior 2 Time managing
Skill/Behavior 1 - Doing homework and assignments on time
Skill/Behavior 2 - Time management
Skill/Behavior 3 Managing due date
Skill/Behavior 1 - Managing Due Dates
Skill/Behavior 2 - time management
Skill/Behavior 2 - Time Management
Skill/Behavior 2 - Accomplishing good work on time
Skill/Behavior 1 - Pay attention (attention to detail including assignment due dates, etc)

Have desire and perseverance to learn
Skill/Behavior 3 - Focus on learning, not on grades
Skill/Behavior 3 - being challenging/inquisitive
Skill/Behavior 3 - curiosity in new subject matter that drives learning
Skill/Behavior 3 - Perseverance to go beyond one's own sphere of knowledge, which requires being humble and learning from other sources
Skill/Behavior 3 - how to manage knowledge gaps and uncertainty
Skill/Behavior 3 - creative thinking, problem solving, grit
Skill/Behavior 1 - confidence in his/her technical and non-technical abilities (part of "grit")
Skill/Behavior 3 - Self-confident.
Skill/Behavior 2 - self-initiative in seeking help when needed (recognizing that getting help is OK)
Skill/Behavior 2 - Lifetime learning ability
Skill/Behavior 3 - Life long learning
Skill/Behavior 2 - Desire to learn.

Be good communicators
Skill/Behavior 1 - effective communication
Skill/Behavior 1 - You have to write well to be successful you cannot rely on ACAD.
Skill/Behavior 1 - precision (in time/expressing themselves)
Skill/Behavior 2 - clarity
Skill/Behavior 1 - Effective written and oral communication
Skill/Behavior 2 - Written communication
Skill/Behavior 1 - communication
Skill/Behavior 3 Written Communication

Be professional in their work
Skill/Behavior 2 - Professional ethics
Skill/Behavior 2 - professionalism
Skill/Behavior 2 ethics, teaming
Skill/Behavior 1 - Professional ethics
Skill/Behavior 3 - Taking pride in all of their work

Be problem solvers
Skill/Behavior 2 - Problem Solving
Skill/Behavior 1 - Getting results
Skill/Behavior 3 - Focus on Results
Skill/Behavior 3 - You can do anything you set your mind to.
Skill/Behavior 2 - General problem solving strategies
Skill/Behavior 1 - Creativity

Miscellaneous
Skill/Behavior 2 - Get involved in class activities
Skill/Behavior 2 - recognizing deceptive arguments
Skill/Behavior 3 - Citation of sources
Skill/Behavior 4 - Ambition

Be aware of global societal needs
Skill/Behavior 3 - Consideration of societal needs in their technical solutions
Skill/Behavior 1 - connections between engineering and global societal issues

Be a good team participant
Skill/Behavior 1 - Team work
Skill/Behavior 3 - communication skills and teamwork
Skill/Behavior 1 Teamwork
Skill/Behavior 1 - leadership

Be competent in technical subjects
Skill/behavior 1 - Math Skills
Skill/behavior 2 - Matlab Skills
Skill/Behavior 1 Math
Skill/Behavior 2 - Technical
Skill/Behavior 1 - Competence.

Be responsible for themselves
Skill/Behavior 2 - Responsibility for one's actions and successes
Skill/Behavior 2 - Not to miss classes
Skill/Behavior 3 - responsibility for actions
Skill/Behavior 2 - sense of responsibility for actions
Skill/Behavior 1 - Responsibility for their own education and actions

Be respectful of others
Skill/Behavior 1 - Respect for one another
Skill/Behavior 1 - Respect for others, including attentiveness, and integrity
Skill/Behavior 3 - Appropriate use of recreational technology in class (cellphone).
Skill/Behavior 3 - Respect to fellow peers