TEACHING AND LEARNING SOFT SKILLS IN UNIVERSITY PHYSICS COURSES: THE HCT'S PERSPECTIVES

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ABSTRACT: *Teaching soft skills in engineering and technology courses has been part of ABET's accreditation criteria for several decades. Much research has been done and recommendations have been made on how to modify engineering courses with the appropriate objectives and course delivery strategies towards successful and effective implementation of the ABET's criteria. Research linked to teaching soft skills to future engineers in physics courses is rare and this paper contributes to this field. The role and place of physics courses in meeting ABET's criteria are important for several reasons that are discussed in this paper. The main reason lies in the fact that basic knowledge and skills related to students' professional development are better taught and practiced at an early stage and then developed through upper level engineering courses. In this paper we discuss the opportunities we currently have in our physics courses. We provide a plan on how to strengthen our students' basic soft skills and what needs to be done to bring our physics courses in line with the HCT 2.0 vision. Several possibilities have been discussed in terms of: course work, projects, labs, assignments, and assessments. The paper argues that there is no need for a big investment, but only school support in training teachers and modifying physics course outcomes. Suggestions on "how to do it" are provided in the conclusion.*

KEYWORDS: physics teaching; soft skills; course objectives; course outcomes; curriculum development.

INTRODUCTION

ABET in its criteria for engineering technology accreditation refers to technical and non-technical skills, so called soft skills. The non-technical skills are not narrowly defined in literature; though they are implied. According to ABET, engineering students at the associate and bachelor degrees are expected to demonstrate, "an ability to apply written, oral, and graphical communication in both technical and non-technical environments; an ability to function effectively as a member or leader on a technical team; and a knowledge of the impact of engineering technology solutions in a societal and global context." ABET accentuates the importance of soft skills through a set of indicators (Table 1) (ABET 2016-2017). Engineering schools must demonstrate how their program outcomes prepare students to meet these indicators.

Table 1. ABET Indicators.

(a) an ability to apply knowledge of mathematics, science, and engineering – hard skills;
(b) an ability to design and conduct experiments, as well as to analyze and interpret data – hard skills;
(c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability - mixture of hard and soft skills;
(d) an ability to function on multidisciplinary teams – soft skills;
(e) an ability to identify, formulate, and solve engineering problems – hard skills;
(f) an understanding of professional and ethical responsibility – soft skills;
(g) an ability to communicate effectively – soft skills;
(h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context – soft skills;
(i) a recognition of the need for, and an ability to engage in life-long learning – soft skills;
(j) a knowledge of contemporary issues – hard skills;
(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice – mixture of hard and soft skills.

However, ABET's criteria is more about presenting results than actual implementation. Schools around the world did not feel obligated to devote time to teaching soft skills in their courses nor did they include them in their curriculum. Hence, little has been done to bring soft skills to the classroom. The focus continued on core courses. Also, ABET does not give any criteria for assessing soft skills. The main reason is that soft skills are culture dependent and hard to assess. If willing to do so, every program should establish its own assessment strategies and assessment tools.

Why soft skills are important? Being a successful engineer involves more than just writing a code or producing a solution. In some cases, soft skills can be more valuable than technical skills. According to Edna Grover-Bisker, of the Missouri University of Science and Technology, "Soft skills are highly important because we all have to communicate within our organization" [Brown, 2016]. She continued to say, "Technical skills are highly valued, don't get me wrong, but it's the soft skills that will help you stand out from the crowd. If you can't accurately convey those technical skills or thoughts, how can you be a valued employee?"
Today's engineers are frequently expected to give presentations, interact with stakeholders, show problem solving skills, decision making skills, teamwork and leadership skills, travel to foreign countries, listen to a client's needs, or even act as salesmen or marketers. Having weak soft skills can leave a bad impression and can have a negative impact on these relationships. It can even hinder the engineer's career advancement. "Technical skills alone are not enough to ensure a successful engineering career, as engineers need to able to function as a member of a team, think critically, and have a strong work ethic," said Angela Froistad, assistant director of the College of Science and Engineering Career Center at the University of Minnesota, Twin Cities (Brown, 2016).

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Research done in the field of soft skills pertaining to better employability and personal career success shows students should learn and advance in the following categories. We should point out the categorization is not imperative but is related to employers' priorities and the type of businesses or services (Scott-Bradley, 2011; Yaacoub, H.K., Husseini, F., Choueiki, Z., 2011; Partnership for 21st Century Skills, 2015).

Learning skills. Engineers of the future should be able to acquire during their studies specific learning skills. These learning skills are: willingness to learn; life-long learning; self-learning; critical reading; and digital information skills.

Communication skills. From the start of their undergraduate studies, students should practice various communication skills while working on their engineering courses. The most needed communication skills for the engineers of the future are: writing (scientific writing, CV, and resume); interpersonal communication (interview, leadership, and public); presentation skills; non-verbal communication (body language); giving and receiving feedback; picking (channeling) communication.

Domain general skills. Networking and relationship building; enculturation; self-awareness; self-confidence; self-esteem; work-life balance (including work under pressure).

Domain specific skills. Problem-solving skills; critical thinking; initiative and enterprising; creativity; analytical skills; multi-tasking; brainstorming; gaining interdisciplinary knowledge.

Management skills. objectives setting; teamwork; project management; decision making processes; time management; effective meetings; conflict management skills; performances analysis.

Business skills. Understanding financial statements; basic accounting; understanding marketing tools; complying with legal requirements.

Leadership. Personal integrity; motivating others; negotiating branding; positive behavior; passion and determination; flexibility and adaptability. The above categorized skills need to be gained by the current engineering students and to be used throughout the next 40-45 years of their career. The scheme of categorization is not based on findings derived from strict research. Bear in mind, we are not here to discuss how soft skills are categorized, this can be the subject of another paper. For example, motivating others is usually a leadership skill when managing a project or a meeting but it is also a learning skill when we talk about self-motivation. According to training organizations, life-long learning can be seen as a learning skill. On the other hand, some universities see life-long learning skills as a domain general skill (typically needed for all UAE and other GCC universities) (Yaacoub, H.K., Husseini, F., Choueiki, Z., 2011). On the other hand, some universities in the USA and Europe see life-long learning as part of time management and/or objectives setting and performance analysis (Williams, B., Figuiredo, J., Trevelyan, J. (Eds.), 2014). The answer to such a dilemma is to have a solid partnership between the educational institutions and industry when it comes to setting soft skills and developing training programs in soft skills.

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It is worth mentioning that soft skills categories are not unique to engineering students. On the contrary, they are almost the same for all undergraduate studies like business information systems, business administration, information technology, medicine and many others. Research was done on categorizing and prioritizing the needed skills for future business information technologists as seen by the employers in the electronics industry sector (Scott-Bradley, 2011). Those skills, after prioritizing, are ranked as follows: leadership and responsibility; communication; critical thinking; productivity and self-direction; creativity; social and cross-cultural skills; flexibility and adaptability. The skills for future graduates are the same for different professions. The only difference is in the priority given by employers. One can conclude that what is valid, for example, for medicine is valid for engineering to a greater extent.

Presently, there are hundreds of journals and dozens of dissertations defended on the subject of soft skills for future graduates in different professions, including engineering. This goes to show we have many good practices already in the running on how to develop soft skills in engineering students. Learning from the experiences found in published research, we can conclude that teaching physics to engineers can help a lot. It’s the difference between learning and training. You can learn technical skills but you would need to be trained on soft skills. You would want the training to begin early in your career, as well. Soft skills are difficult to teach: “Many employers can train an employee on a computer program or laboratory skill in a relatively short amount of time, but they would likely find it more difficult to train an employee on how to resolve conflicts or be an effective member of a team. Soft skills are not developed overnight” (Driscoll, 2017). Physics courses are among the early courses taught to students. They provide the perfect opportunity to introduce basic skills related to professional development at an early stage. Students can pick up on what they learn in Physics and improve on their soft skills throughout their engineering courses at higher levels.

Teaching and learning soft skills in physics courses

When researching the topic, one notices only few schools took the initiative to educate their students on soft skills. The University of Monash in Australia lunched their own program in the Faculty of Engineering called GROW. According to the Associate Dean, Professor Gary Codner, “GROW is not an acronym – it simply means ‘grow and develop as an individual’ and therefore become a better engineer” (Monash, 2013). Industry keeps telling us today’s graduates are expected to have better soft skills related to emotional intelligence, self-awareness, leadership, teamwork, communication and innovation, among others. The University of Monash offers workshops for their engineering students on self-awareness, emotional intelligent, leadership, innovation, and communications among others.

Higher institutions in Singapore are upgrading their curriculum to meet market needs. The Singapore Management University has introduced its Finishing Touch Program which is a series of workshops for students. The National University of Singapore has introduced new modules in 2012, while Nanyang Technological University has established its own Margaret Lien Centre for Professional Success.

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In Fall 2016, Reinhardt University, in Georgia, launched an interesting program to train students in soft skills without making changes to the liberal arts curriculum. Each month, the school offers a Saturday training session on a different topic. At the end of the session, the students write and reflect on how they would have used the skills they have learned in real-life scenarios. For every five training sessions a student completes, he receives a pin to wear on his graduation gowns - a distinction that marks his achievement (Tate, 2017).
Teaching soft skills to engineering students can be done in many different ways (Williams, B., Figuiredo, J., Trevelyan, J. (Eds.) 2014):

- integrating soft skills into the different subjects of a degree;
- setting different subjects for each soft skills and integrating them into the program with different teachers who are only dedicated to teaching soft skills;
- conducting seminars and workshops on weekends;
- taking a couple of weeks each semester for soft skills training via university-industry partnerships;
- dedicating a full semester in the degree program to train students in specific soft skills.

The first approach - integrating soft skills in the different subjects of a degree – is the preferable one. It is effective, concrete, and easy to implement at a little or no cost. However, the model implies competencies are taught and defined, in addition to having indicators and descriptors used for assessment (rubrics and grading).
Research on soft skills teaching methods and tools development shows the following activities are widely used by engineering departments (Cimatti, 2016; Cinque, 2016):

- Capstone projects (thesis);
- Specific course implementation (Design Thinking, Experiment Design, etc.);
- Clinical pairing, internship, industrial training program;
- Competitions;
- Incorporation of soft skills training and practicing in all courses;
- Partnership for interpersonal professional development with training schools outside the university;
- Multiple-solution problems with problem-based learning that require system wide engagement;
- Utilization of new technologies in teaching soft skills (virtual reality, smart mobile platforms, simulations, etc.).
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Recent trends show that teaching soft skills alone is an obsolete approach. The boundary between the soft and hard skills (professional skills) tend to disintegrate when the same task always requires both. This is another reason why the proposed method of learning soft skills in all courses is the most desired one.

In her research on embedding soft skills in Computer and Information Science Program Curriculum at the Higher Colleges of Technology in UAE, Pizika (Pizika, N., 2016) has discussed the five different models and concluded teaching soft skills through the whole curriculum is the most comprehensive and appropriate approach . She argues that the time has come for the implementation of new ideas befitting the HCT v2.0 strategy and vision (HCT,

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2017). One contribution to this end is this paper; dealing with soft skills training, learning and assessment in physics courses in the engineering programs at HCT.

Coming back to our main topic, what rule, if any, can Physics courses play in developing students' soft skills? By their nature, Physics courses lend themselves to solving problems; formulation of solutions; turning physics problems into mathematical models; plan, execute, and report on a project or a lab experiment. The fact that Physics courses are among the very first courses to be taught to students will enable students to foster skills that impart intellectual curiosity, investigative skills, communications skills, punctuality, and team work.
According to the Institute of Physics in the USA and the UK students can gain and develop the following soft skills while studying physics (IOP, 2011):

(1) *Teamwork*. Students are expected to listen to other team members and take each other's opinion and ideas. Students should be able to plan, organize, and delegate different tasks within the team. Students should demonstrate ability to lead as well. Students should gain experience in group work and be able to interact constructively with other people. They would have to show leadership and team management skills.
(2) *Problem-solving and critical thinking*. When working on physics problems, students are expected to underline the physics principles, use them to identify a range of solutions, assess the best way forward, and present their solutions in an explicit scientific way. In so doing, students would gain intellectual and critical thinking skills along with communication skills.
(3) *Time management*. Students should be able to manage their time efficiently and meet deadlines.
(4) *Organization*. Students are expected to plan their schedule, and follow through their work and meet deadlines.
(5) *Numeracy*. Students should exhibit ability to apply arithmetic and be able to deal with budgets and statistics.
(6) *Communication*. Students should be able to write technical reports, give speeches and presentations, run meetings and discussions, and communicate complex information. Students should show good listening skills, the ability to negotiate or be persuasive, and understand legal issues.
(7) *Attention to details*. Students should exhibit ability to focus on details. They should be able to monitor and check their work, information, and plans.
(8) *Administration*. Students are expected to keep detailed records of work, follow business procedures and etiquettes, call for and manage meetings.
(9) *Analytics*. Students are expected to collect, analyze and interpret data, make an informed decision, and report their findings.
(10) *IT*. Students should become familiar with appropriate programming languages and be able to use the internet for information searches, data collection and data manipulation.
(11) *Self-awareness and self-confidence*. Students should develop their ability to work independently, show initiative, and organize themselves to meet deadlines.

Two important skill sets that engineering students gain through their physics courses are critical thinking skills and problem solving techniques. When it comes to understanding the laws that govern our physical world, students are exposed to mathematical modeling. Laboratory

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experiments help students develop skills related to teamwork, writing skills, applied math and modeling, in addition to knowledge in instrumentation.

Our physics courses are well suited to meet the engineering program's objectives at HCT. Assessment strategies and instruments used are not different to that used in every other engineering core course. Upon examining the teaching and learning methods in the two introductory physics courses (Physics I and Physics II), we find the following soft skills practiced by teachers and students: teamwork, communication skills, critical thinking and problem solving skills, management skills, networking and so called "self" skills (Table 2). After careful examination of the available resources and assessment tools, we propose several indicators to gauge students' success in gaining soft skills while studying physics. Table 2 lists appropriate sources of validation along with possible limitations and obstacles in teaching and learning soft skills.

Table 2. Indicators of success, source of validation and foreseen limitation and obstacles for six chosen skills assessment in a physics course.

TEAMWORK		
Indicator	*Source*	*Limitations and obstacles*
1. Does not complete/Does complete assigned tasks	Observation and check list (teacher)	
2. Partially complete or does it with delay	Observation and check list (teacher)	
3. Reports before the deadline	Observation and check list (teacher)	
4. The quality of the work that comes from team work contribution	Written reports on Blackboard	
5. He/she guides the other team members	Communication channels – classroom, e-mail transcript, WhatsApp transcript, etc.(student reports)	
6. Discussing the problem with the team on Blackboard or other open learning platforms	Recording the duration and frequency of access	Blackboard use not advanced
7. Communicating within the group	e-mail transcripts; recorded audio; Blackboard meeting board	Blackboard use not advanced
8. Group work and decision making	Blackboard meeting group	Blackboard use not advanced
COMMUNICATION SKILLS		

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1. Communication within the group, both on giving and receiving	e-mail transcripts; recorded audio; Blackboard meeting board	Blackboard use not advanced
2. Writing – scientific and technical	• Lab report structure and content (teacher); • Project course work structure and clarity (teacher); • Homework (teacher)	• Subjective judgment.
3. Interpersonal communication	• Course project presentation (questions from audience and teacher); • Course projects college competition (audience).	• Competition not supported from the University.
4. Presentation	Oral presentation of lab reports and/or course project (teacher and the audience).	
CREATIVE/CRITICAL THINKING AND PROBLEM SOLVING		
1. Problem solving	• Approach and time spent by student on problem solving on-board (teacher); • Time spent on problem solving for course project on meetings with the teacher (teacher); • Effectiveness of resources usage by students for problem solving (teacher). • Concept map chart.	• Teacher's lack of time for observation during out-of-class activities.
2. Creative/critical thinking	• New approaches proposed by students (teacher); • Concept map chart;. • Acceptance of a student's idea from other students (students).	• Teacher's deepness and broadness of knowledge in the subject.
MANAGEMENT SKILLS		
1. Brainstorming	• In-class problem giving to group of students (teacher); • Blackboard discussion forum with constricted time (Blackboard); • Meetings on course project work (teacher).	• Blackboard use not advanced.

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2. Performance analysis	• self-reflectance on effectiveness (students; questionnaire); • self-report on every stage of success on labs and course project (students); • setting a goal on learning a given physics topic – setting the measurement instrument – analyzing the results – action taken on improvement (students).	• Missing clear goals.
3. Effective meetings	• Duration, time and outcome of Blackboard group meeting (teacher and Blackboard); • Duration, time and outcome of face-to-face meeting (teacher); • Goals achieved from students' visit to teacher during office hours (teacher).	• Minutes not taken after the meetings.
4. Project management	• Planning and organizing the research on course project work (student self-reflectance); • Scheduling the activities and time allocation (written report); • Negotiating for technical support and resources (teacher, technicians and librarians); • Tasks arrangement for team members (students); • Risks encountering and overcoming (students); • Leadership in practice: who do what in which case and how (students' questionnaire).	• Teacher not involved. • Technicians and librarians busy to serve and report. • Lack of clear objectives.
NETWORKING		
1. Establishing and managing working network	• Meetings with professional outside the College while working on a project or homework (partners reports to teachers); • Visiting web sites of professional associations; companies and governmental authorities	• Cultural barriers; • Partners not reporting. • Irrelevant web sites visits;

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	(webometrics through Blackboard and students' reports).	• Irrelevant content searched.
"SELF" SKILLS		
1. Motivation	• The extent of motivation on activities taken by students in the course work (teacher) • Report on cause of motivation (student feedback at the end of semester)	• Subjective judgment
2. Self-awareness 3. Self-confidence 4. Self-esteem	Report on increase of self-awareness, self-confidence and self-esteem because of the course work (student feedback at the end of semester)	Plain and indigent report because of lack of openness for self-expression (cultural barriers)
5. Study-life balance	Report on difficulties in life because of the course work (student feedback at the end of semester)	Plain and indigent report because of lack of openness for self-expression (cultural barriers)
6. Positive behavior	Chances to express positive behavior (student feedback at the end of semester)	

The sources of validation are done in connection with activities done by the students. For example, if we talk about "communication within the group" indicator, several sources of validation can be used like: e-mail transcripts, recorded audio from their meetings (done by the students), or review of a discussion board on Blackboard. The only limitation here is that students may not be very familiar with the available tools on Blackboard.

When we talk about "teamwork" indicators, several sources of validation can be used like: the level at which students complete their tasks and how one student guides the teamwork (leadership). The teacher should be a skilled evaluator with a checklist and be ready to record his observations in terms of achieved or not achieved tasks.

When we talk about "presentation" indicators, one source of validation can be the oral presentation students give when they are defending their project before the teacher and their classmates. According to the current assessment strategy, a project is worth 10% of the final grade. We can dedicate 5 % to the written report (technical skills evaluated along with soft skills in terms of scientific writing, project management, and creative thinking) and 5 % can be awarded for presentation.

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When we talk about “interpersonal communication” indicators, two sources of validation can be used: communication and interaction with the audience over the course of a competition or a project presentation. Students will be evaluated on how they deliver and defend their results and how they handle questions from the audience. Currently, physics courses only offer projects which can be construed as a limitation. One way around this is to have an HCT-wide Physics competition, in which, skills like technical writing, presentation, brainstorming, study-life balance, or project management can be better assessed and evaluated.

Whatever indicators, validation, or obstacles we choose to examine from Table 2, it’s clear that physics courses can help engineering students develop and gain soft skills. Physics courses are offered during freshman year prior to any core engineering course. It’s the proper time for students to start building their soft skills.

Moving forward, HCT can offer honor physics courses. Honor courses are academically challenging to faculty and students. They provide learning opportunities that differ from traditional courses. Students are assessed not just on their knowledge but soft skills as well. Students would be required to have high GPA and faculty would need to be trained on how to run an honor course.

Assessment of soft skills

What do we know about assessment of soft skills? Assessment of soft skills is a process of gathering evidences, and making judgments and inferences pertaining to students’ achievement and performance. Assessment can be summative or formative. The goal of summative assessment is to evaluate student learning and measure the level of success or proficiency that has been obtained at the end of an instructional course, by comparing it against some standard or benchmark (Briggs, 2015). Examples of summative assessments include exams and projects. Summative assessment aims to list achievements and levels. If a skill is not in the list, then the skill has not been assessed or has not been delivered to students. On the other hand, formative assessment aims to monitor student learning and gather feedback that can be used by the instructor and the students to guide improvements in the ongoing teaching and learning context. Examples of formative assessments include: early course evaluation or a student submitting a sentence or two identifying the main point of the lecture. Concept map is a new way to gauge student learning. It’s a formative assessment tool that tells how successful the learning experience was. The main quality criteria for skills assessment are: reliability; validity in terms of content and criterion; objectivity and feasibility. When an assessment is developed, it should be coherent, comprehensive, doable, and uninterrupted. Soft skills should follow the following principles: (Cimatti, 2016; Markle, R., Brenneman B., Jackson, T., Burrus J., Robbins S., 2013):

- be aligned with the development of significant soft skills goals;
- incorporate unpredictability and adaptability;
- be performance based;
- add value for teaching and learning;
- make students thinking visible;
- be fair;
- be technically sound; and
- generate information to act upon.

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Four different models of assessment have been established until now: holistic; portfolio; workplace and instrumental. These models have some limitations, such as:

- The holistic model is rather summative (limited learning potential) and is reliable only in the context (school only);
- The portfolio model is influenced by the writer's fluency. The model lacks comparability and it is time-consuming.
- The workplace assessment has very low reliability.
- The instrumental model requires authenticity.

Several attempts have been made by researchers to introduce effective assessment strategies and criteria for evaluating how successful students are in building their soft skills during their undergraduate engineering studies (Schoepp, K. & Danaher, M., 2016; Passow, 2012). The work of Passow seams the most prominent one and is based on video observation and monitoring of students' behavior and communication during their work on challenging practical problems during their final year (Passow, 2012). The Passow's method proved to be effective, but not efficient in assessing students' soft skills. Rubrics for evaluation have been defined previously as well as the problem to be worked on after laborious collaboration between many teachers from different subjects and similar experiences (science, engineering, statistics, psychology, media technology, management, etc.). Scores of hours have been spent on rubrics, more hours on defining the problems and even more on advancing the video monitoring and analysis technique. These are not the only difficulties. The main difficulty lies in the fact that students don't like being videotaped while working on the activity. To them, it is a privacy violation and external intrusion which influence their work and impact their results negatively. The assessment can be made more efficient with the use of some of today's gadgets like smart glasses for eye tracking and sound recording. Wearable gadgets appear less intrusive. Research on the effects of wearing smart glasses on human behavior showed more positive results (Wang J., Guo D., Jou M., 2015; TOBIPRO, 2015; Tien T., Pucher P.H., Sodergren M.H. Sriskandarajah K., Yang G.Z., Darzi A., 2014). Passow's methodology of assessing soft skills can still be implemented using smart technology.

Physics teachers, after proper training in soft skills evaluation, can identify and assess soft skills in our students through their course work, assignments, project, or in-class activities. Students can be evaluated against a checklist. Having some soft skills evaluation method is better than having none. In Table 2, the proposed indicators for assessing students' soft skills are only a suggestion. More research will follow by the authors in order to propose more reliable and comprehensive methods of validation.

CONCLUSION

Most educational programs don't teach the skills employers are currently seeking like: leadership, teamwork, adaptability, and culture sensitivity. As Saga Briggs put it, "We need to be giving students more than a sum of knowledge reflected by a piece of paper. We need to be giving them the tools they need to be resourceful in a socially perceptive way, to innovate not just alone in a lab but with a group of colleagues, and to adapt when new requirements arise" (Briggs, 2015).

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Physics can help our students develop soft skills early in their career and build on it while advancing further through their engineering courses. Physics courses train students on (IOP, 2011):

- ability to conduct experiments;
- ability to develop theories;
- ability to compute;
- ability of mathematical modeling;
- ability of independent and team research;
- ability to analyze and organize data;
- ability to design, assemble and test equipment or software.
- ability to carry out a health and safety assessment.

More research in the field of nurturing soft skills through physics courses is needed. One can opt for smart technology to monitor and record results. Or a less intrusive method would be to foster a culture of innovation and competition. Such culture will prove instrumental and valuable in building soft skills in our students. The soft skills that can be assessed and developed like: communication, teamwork, management skills, creative thinking and problem solving skills. Research in this field is needed at HCT. A first step would be to establish a soft skills research group which is properly funded.

The development of soft skills in Emirati students cannot be for the sole purpose of employability. The Emiratization strategy in the UAE guarantees jobs for Emirati graduates. There must be other reasons like a strong work ethic, global awareness, entrepreneurship, and happiness - all which can be a great benefit to the economy and society of the UAE society.
We need to know what skills our students lack and how we can best prepare them for their post-graduate endeavours. We need to reach out to the industry and seek their feedback on what skills they wish to see in our students. We can design programs but this won't do our students any good if it is not what employers are seeking.

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