

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

2020 – 2021 (ODD)





EDITOR'S DESK

From the Chief Editor Desk...



It gives me immense pleasure to bring out the issue of our magazine "CyberLines" as the name itself symbolize it marks the whole time line of our department of Computer Science and Engineering.

The main motto of bringing out this magazine is to show the surrounding, our achievement, work and contribution to the society for every academic year. The magazine reveals all the hard work of our students, their extracurricular activities, and we complement their hard work under the winners and toppers in this magazine, and I am quite happy in sharing these details with the Heads of the Departments, our well wishers and all others who are bonded to CSE, through this magazine.

This magazine is also for us to look back to the past, the path we traveled together as a unit. The supports we got from our colleagues and subordinates. It reflects our complete journey of the past year. It gives us time to think about our beloved passed out students, and wish them all success in the corporate life they are undergoing now. The current volume has come out well, and the work from our students has made it more colorful. We hope our forthcoming volume will be enriched more delightful incidents, ideas and thoughts to share.

> With Regards Dr. S. Shankar Head of the Department

CONTENTs PAGE

- 1. Dept Vision, Dept Mission
- 2. DEPT PEOs, DEPT PSOs
- 3. Articles by Students
- 4. Articles by Faculty Members
- **5. Department Related Information**



Computer has become the part of our life. The work of a computer engineering is not only restricted to the field of IT, their job continues even outside that, like Automobiles and many other fields. The department of Computer Science and Engineering is linked and synchronized with all other department of Engineering. Hence the world moves ahead along with us!



To prepare the students to become computer science professionals at par with the current trends technology and to mould them to attain excellent leadership qualities thereby making them component in the hardware, software and research arena.



To provide an excellence for individuals to develop technologically superior, socially conscious and nationally responsible citizens.



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PEO2: To be capable of modelling, designing, implementing and verifying a computing system to meet specified requirements for the benefit of society. **PEO3:** To possess critical thinking, communication skills, teamwork, leadership skills and ethical behaviour necessary to function productively and professionally.

PSOs

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PSO1: An ability to understand, apply, design and develop principles in the areas related to algorithms, Software engineering, Networking and database concepts for computer-based systems in solving engineering problems.

PSO2: An ability to employ modern computer languages environments and platforms to excel in their careers.

Articles by Students

Fundamental principles of ethical behaviour

Santhosh K V IV CSE C Department of CSE HICET

What is ethics?

Ethics is concerned with what society considers to be right or wrong. It therefore relates to standards of behaviour. At first this may appear to overlap with one purpose of law, in that law seeks to address behaviour of which society disapproves. However, ethical principles may be adopted that discourage behaviour that is undesirable but legal. For example, during the expenses scandal that arose in the UK in 2009 regarding claims for reimbursement by politicians, one politician responded to criticism by stating that she had done nothing illegal. This rather missed the point, as the general public may still regard legitimate expenses claims as inappropriate, and therefore unethical.

Ethics lacks the certainty usually provided by the law, as individuals may consider some things that are legal to be unethical. In turn, views on morality differ, so even when ethical principles are codified by professional bodies or commercial organisations, they may be regarded differently according to the moral principles of each individual.

All professions rely on their practitioners adopting not only legal but ethical standards. If accountants behave unethically, their clients will lose confidence in their services, and society in general will no longer trust them or feel that they act in the public interest. The potential effects of this would be devastating, not only to accountants themselves, but the profession and its stakeholders, including individuals, organisations and others affected directly or indirectly by their work.

Approaches to ethics

Ethical behaviour may be defined in terms of duties. Many philosophers have argued that certain core duties are imperatives, and as such will always apply, regardless of circumstances. Absolutists (or dogmatists) admit no exceptions, as these duties are believed to be sacrosanct. They often have their foundations in religion or deeply embedded values, universally accepted by society. The most common examples are the duties not to kill and to always tell the truth. This approach to ethics is sometimes called the deontological approach (from the Greek word 'deon', meaning 'duty').

Relativists (or pragmatists) accept that duties are important but are prepared to admit exceptions. For example, they may argue that it is right to kill if the cause is just, or to tell a lie if the purpose is noble. So if a frail and terminally ill loved one asks 'Am I dying?', it may sometimes be right to lie.

Codes of conduct issued by professional bodies, and corporate codes issued by business organisations, define responsibilities in terms of duties, and may provide guidance on the more common exceptions that apply. As it is impossible to define the appropriate response to every single human interaction, these codes can only serve as sets of minimum standards and have to rely on the inherent willingness of practitioners to deduce what is right or wrong.

Introduction to microeconomics

Alen Lawrence III CSE A Department of CSE HICET What is microeconomics?

Microeconomics is the branch of economics that considers the behaviour of decision takers within the economy, such as individuals, households and firms. The word 'firm' is used generically to refer to all types of business. Microeconomics contrasts with the study of macroeconomics, which considers the economy as a whole.

Scarcity, choice and opportunity cost

The platform on which microeconomic thought is built lies at the very heart of economic thinking – namely, how decision takers choose between scarce resources that have alternative uses. Consumers demand goods and services and producers offer these for sale, but nobody can take everything they want from the economic system. Choices have to be made, and for every choice made something is forgone. An individual may choose to buy a car, but in doing so may have to give up a holiday which they might have used the money for, if they had not chosen to buy the car. In this example, the holiday is the opportunity cost of the car. Just as individuals and households make opportunity cost decisions about what they consume, so too do firms take decisions about what to produce, and in doing so preclude themselves from producing alternative goods and services.

Producers also have to decide how much to produce and for whom. A simple answer to the first question might be: 'As much as possible of course, using all the resources we can'. However, classical economists teach us that if we combine all of the factors of production – land, labour, capital and the entrepreneur – in different ways, we can get some surprising results. One of the most famous of these is confirmed by the law of diminishing returns.

Articles by Faculty Members

The importance of teams

Dr. B. DHIYANESH

Associate Professor

Department of CSE

HICET

We are often told that teams are the way forward, especially in business. But of course the problem is that if the team is not working, perhaps because the members cannot get on, or the skills are out of balance or indeed the team has not come together, then serious, often negative, problems can arise. And that's bad for business. Teams are everywhere. They have to develop, mature and often eventually terminate.

According to the writer Tuckman, it is possible to identify five distinct stages of development through which teams should pass. The first stage is the socalled forming stage, when the members meet and decide on the purpose of the team and how it will operate.

At this stage the team is no more than a collection of individuals, finding out about one another and discussing the task - which may be unclear. Although wasteful and time consuming, this stage is essential to ensure that the team members become comfortable with each other.

The second stage is referred to as storming. The phrase is a deliberate reference to conflict, ideas, ideals and behaviour that are challenged and sometimes rejected. There is competition and argument about who should

fill the roles in the team. Although characterised by conflict, this is constructive with trust developing and if the individuals are successful with this stage then a stronger team will result.

The third stage is norming, when the routines under which the team will operate become established. The team is now settling down, investigating ideas, testing the reactions of the team's members and consequently norms are established. In addition, patterns of behaviour are established, trust will develop and the methods by which decisions will be taken will be decided on. By the time the performing stage is reached, the team is complete and is able to perform effectively.

Problems with team roles, conflict and issues of adjustment have been resolved. In practice, many teams reach the dorming stage, which is the final stage. The team becomes complacent, loses interest in the task and self-preservation becomes the dominant issue.

All teams, it is suggested, go through these five stages. However, if for some reason the team loses or gains members, or the external environment imposes fundamental changes on it, the team very often may revert to earlier stages of development.

Team development is however only one dimension in understanding the importance of the ways in which teams work. Dr Meredith Belbin has studied team membership (as opposed to team development). He has suggested that all teams are a matter of balance and that the team members fulfil two roles. The primary role is the skill or function for which the individual was appointed to the team in the first place. This is usually the individual's professional role.

The role of marketing

J. Prakash Assistant Professor Department of CSE HICET

What is marketing?

The definition of marketing published by the UK's Chartered Institute of Marketing is 'the management process responsible for identifying, anticipating and satisfying customer needs profitably'.

There is no doubt that marketing is a **management process**, as most successful organisations regard it as a crucial set of co-ordinated activities that must be driven from the strategic level of a business. Many organisations have an executive director with functional responsibility for marketing but, even if this is not the case, it is usually necessary for a strategic marketing plan to be put in place and implemented, consistent with the goals and objectives set out in the corporate plan.

Despite a widely held perception that marketing is synonymous with selling, the definition confirms that the scope of marketing extends far beyond selling alone. Indeed, a business strategy built on selling and without due attention to other important marketing activities can have serious shortcomings: the customer's needs may be overlooked, the organisation

may sell goods and services that the customer does not need, or the customer may have needs for the organisation's products and services but may purchase the wrong ones.

The essence of marketing is captured in the words '**identifying**, **anticipating and satisfying**'. These imply a process through which the organisation must find out what customers want, or carry out research into what customers are likely to want in the future, and then fulfil these needs by deploying its resources in an appropriate manner. The process has to be dynamic, as needs and preferences change over time, rendering some goods and services less suitable for their needs, or even obsolete. There are countless examples of products that have fulfilled genuine needs in the past, sometimes for long periods of time, but have eventually been superseded by alternative choices due to changes in needs, tastes and preferences, or have become totally unnecessary for consumers. Examples include audio cassettes, Super 8 cine films and projectors, 'twin tub' washing machines and cash registers.

Successful business organisations therefore regard marketing as a **continuous process**, through which actual and perceived customer needs are constantly analysed and monitored in order to fulfil these needs to the extent that the organisation's resources and capabilities allow.

Department Related Information

1. Webinar on Full Stack development

Webinar on Full Stack Development was conducted on 17th of July 2020. It was inaugurated by Dr.S.Shankar, Head of the Department. It was handled by Mr.Lokesh Keyan,Senior Software developer,Global Payments,Jacksonville,USA.

2. Seminar on "Digital Marketing"

Webinar on IIC Driven Activity- My Story was conducted on 20th of November 2020. It was inaugurated by Dr.S.Shankar, Head of the Departm*e*nt.

Struggle to address multiple innovation



challenges at once, committed innovators prioritize a handful and as a result address them more effectively.



A party of around 350 students from CSE department have benefited through this program. The event was organized by Dr.D.Visagamoorthi. MBA., DOM., Ph.D., MS.C (Applied Psychology), Certified NLP Trainer Founder CEO - Insighters India

3. Seminar on" Faculty orientation program"

A Seminar on "Two Days Faculty Orientation programme " was conducted on 9th and 10th October 2020. A party of around 35 staffs from CSE have benefited through this program. It was inaugurated by Dr.S.Shankar, Head of the Department. Newly joined faculties are made aware of the Rules. Autonomous Autonomous Examination Procedures that are followed, Research and Development Activities going on, Institution Ranking, NBA activities, Basic Teaching Methodologies and Pedagogic Tichniques, Online Teaching Learning Methodologies available".

The event was organized by Dr.S.Shankar

4. STTP on "Predictive Analytics and Machine Learning using R Programming and KNIME"

Three weeks Short Term Training Programme on Predictive Analytics and Machine Learning using R Programming and KNIME was conducted from 7th September to 17th October 2020. It was inaugurated by Dr.S.Shankar, Head of the Department.

Explore the application of various machine learning algorithms. Able to implement machine learning algorithms using R Programming and KNIME. Able to impart knowledge to students in a more practical way and make them gain

knou'Jedge in the recent advancements in machine learning which is the future of the growing industry.

The event was handled by Dr.Gowtharn Ramesh Assistant Irrofessor (SG) / CSE Amrita schr:ol of Engineering, Coimbatore Mr. H.Rajesh Kumar Managing L)irector Buzztech 1'r'aining Institute, Coimbatore Mr.Debayan Roy Sr. Data Analyst, Research & Development Barclays, Pune Ms.Lakshrni S Machine Learning trngine Cognizant, Dubai, UAE.

A party of around 200 students from CSE have benefited through this program. The event was organized by Dr"I.Jasmine Selvakumari Jeya and Ms.N. Revathi

5. Hackathon

Smart India Hackathon 2020 (software trdition) was conducted from 1st to 3rd

August 2020. A party of around 144 students from CSE have benefited through this program.

Nationwide initiative that provided students a platform to solve some of pressing problems we face in our daily lives, and thus inculcate a culture of product innovation and a mind-set of problem solving.

The event was organized by Dr.S.Shankar

6. Seminar on "Machine Learning using Python"

One day Seminar on Machine Learning using Python was conducted on 16th October 2020. It was inaugurated by Dr.S.Shankar, Head of the Department.



Students learnt concepts of Machine Learning using Python. The sessionwas handled by Mr Deepak Garg,ATS Learning Solutions, Coimbatore.

A party of around 65 students from CSE have benefited through this program.

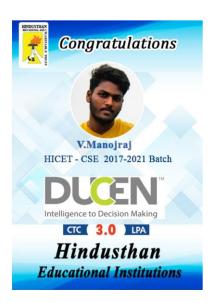
The event was organized by Mr.Prakash, J,Dr.I.JasmineSelvakumariJaya,Asso.Prof/CSE, Mr.T.K.P.Rajagopal,AP/CSE.

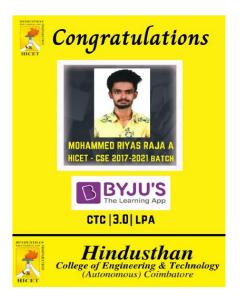
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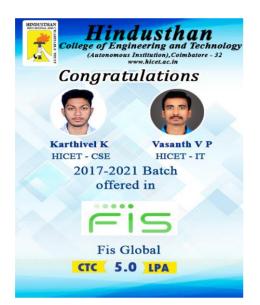
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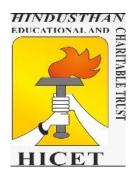






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Articles by Students

How TO RESPOND TO YOUR PARENT'S RACIST COMMENTS KEERTHANA C IV CSE B Department of CSE HICET

If one thing's for certain, most people tend to hold their parents near and dear to their hearts. To get your parents to realize their views might be off on a subject, **ask them how** *their* **parents would feel when they say something like that.** It's a calm and respectful approach to try and make them re-think their words or ideas. If you know your parents feel attacked easily whenever they get called out, this approach acts as the perfect cushion for a much-needed conversation.

At a young age, we learn respect all people. Our parents raise us to act respectful and acknowledge that people come from different backgrounds. However, a lot of their true values and beliefs get filtered throughout childhoods.

"My parents are so quick to judge other people, especially from different cultures. Every time they do it, it's like their values of respecting other people just go out the window. But just because I'm their child doesn't mean I am a child. We're college students, educated with a voice. It is completely okay to call our parents out when they make racist comments because we too, have to set an example for generations to come. Once we grow up, they feel they can let a little loose and discuss topics they thought we were too young to understand. During these conversations, they tend to dismiss those boundaries they so strictly follow in front of others and voice their true opinions. In this case, **remind them of the example they're supposed to hold and the standard rule of respect.** You're also shifting the perspectives for the generations to come in your family!

Even if it has nothing to do with your own race, discrimination of any person acts as а valid reason to make anyone uncomfortable. And this should make you uncomfortable! Then again, we can't call out our parents using the same tone we'd use for a friend. By adding the disclaimer of not wanting to put them on the spot, it makes them aware of your genuine concern. Once they ask you why it makes you uncomfortable, because let's face it, you know they will, use that as your opportunity to describe how the comment they made come across as racist.

Being educated about racism plays a crucial role in understanding how our words may portray it. However, many of us come from immigrant parents that received probably half of the education we did. In these cases, we hold a bit of responsibility hold our parents accountable on how their views may be distorted due to lack of knowledge.

6 ways recent college graduates can enhance their online job search

MURUGESWARI.R N CSE B Department of CSE HICET When recent or soon-to-be college graduates begin employment, many inevitably turn to job-search and r

employment, many inevitably turn to job-search and networking platforms on the internet.

to seek

The platforms include some that are college-based – such as Handshake, Symplicity GradLeaders and 12twenty – as well as networking platforms like LinkedIn and PeopleGrove. With COVID-19 having moved job searches more and more into the virtual realm, these platforms are playing an increasingly crucial role in the quest for employment.

From my vantage point as a veteran college-based career services counselor, I have also observed that many students and recent graduates don't make the most of what these platforms have to offer.

With that in mind – and in light of reports of bleak employment prospects for new college graduates – here are six tips for recent or soon-to-be college graduates who hope to make the most of their virtual job searches.

1. Use multiple platforms

Start with the platform that has a partnership with your college. The reason is because campus-based platforms, such as Symplicity or Handshake, often list jobs that are not available on other sites.

At the same time, I recommend that college students set up profiles with one or more of the "big board" employment job posting sites, such as Indeed, CareerBuilder, SimplyHired, ZipRecruiter or Glassdoor. Among other things, these sites allow job seekers to create job search agents that push email notifications whenever new jobs that match search criteria are posted.

2. Apply frequently

Students who are new to the job search may not be applying for enough positions. I've recently worked with several students who have become discouraged when they applied to a few jobs and didn't get the response they wanted.

While the number of positions a college job seeker should apply to will vary by industry, I suggest that an applicant should apply to at least two or three positions a day.

The reason I say this is because employment experts, such as Biron Clark, founder of CareerSidekick.com, estimate that only 2%-3% of employment applications result in an interview. For that reason alone, job seekers have to step up their search and networking efforts in order to increase their odds.

3. Set small daily goals

Real and perceived economic challenges created by the pandemic have led to a great deal of anxiety for job seekers. Studies have shown that extended periods of unemployment – and the risk of unemployment and underemployment – can be distressing.

Many college students with whom I have worked have expressed feelings of anxiety and being overwhelmed about their employment prospects. Some have even stopped searching for a job altogether.

To guard against giving up, I recommend that college students and recent graduates focus on small steps and daily goals. In addition to applying to a few positions a day, these goals can include conducting research regarding possible careers or networking with at least one person daily.

4. Track your progress

Create a spreadsheet to keep track of your job applications.

I believe a spreadsheet can be a motivational tool to ensure daily job hunt activity. I've even created a sample spreadsheet that I share with the students and alumni with whom I work. The columns on my sample spreadsheet include categories such as "Date of Application," "Date of Screening Interview," "Thank You Note Sent?" and "Salary Offer." A more sophisticated spreadsheet might include columns for when the time comes to choose between offers, such as length of commute or average rent in the city where the job is located.

5. Tap into alumni networks

Surveys indicate that up to 80% of people secure employment opportunities through networking and personal connections. For that reason, connections with alumni and others with ties to a particular school can be the key to a successful job search.

Many colleges and universities have programs to help students and alumni make connections. Some of these are closed networks exclusively for current students and verified alumni, often through service providers such as PeopleGrove and Graduway. Others are through LinkedIn, including specific university-affiliated LinkedIn groups and the popular LinkedIn Alumni Tool. This tool allows job seekers to research and connect with alumni from their alma mater based on search criteria that include geographic location, current employer, job function and industry, academic major and skills.

While networking strategies can feel like a lot of work, they are proven. Sometimes the progress is incremental. For instance, networking can lead to informational interviews, which are opportunities for job seekers to get insights from someone already working in a field or at a company of interest. I have seen the power of networking and these informational interviews firsthand. A 2020 graduate from the school where I work landed a position as an area manager with a major logistics company in Orlando after we connected him with an alum who works for the same organization. The alum offered him an informational interview and made an internal employee referral. A formal job interview and, ultimately, a job offer soon followed.

6. Take advantage of career services

As a career services professional, I would be remiss if I failed to point out that almost every college and university has some sort of career center to help students find jobs. The vast majority offer services to alumni for life for free or for a small fee.

Evidence shows that visits to these centers are worthwhile. According to a 2016 Gallup poll, college graduates who use their college career center are more likely to obtain full-time employment – 67%, compared with 59% for graduates who did not visit career services.

Articles by Faculty Members

Six Things That Make College Teachers Successful D. Satheesh kumar Assistant Professor Department of CSE HICET

1. STUDY THE KNOWLEDGE BASE OF TEACHING AND LEARNING.

You have chosen to teach in higher education because you are a subject-matter specialist with a tremendous knowledge of your discipline. As you enter or continue your career, there is another field of knowledge you need to know: teaching and learning. What we know about teaching and learning continues to grow dramatically. It includes developing effective instructional strategies, reaching today's students, and teaching with technology. Where is this knowledge base? Books, articles in pedagogical periodicals, newsletters, conferences, and online resources provide ample help. Take advantage of your institution's center for teaching and learning or other professional development resources.

2. ACCEPT ALL WHO ENTER THE CLASSROOM DOOR.

Much has been written about underprepared students who enter college. Since more students attend college now than ever before, it is only rational that some are not as prepared as we might expect. Institutions are dealing with this issue, but instructors must do some rethinking about how they teach, in order to meet the needs of all learners in their classrooms. Ungraded pretests and interest inventories can be used to see what your students already know about the content you will be teaching next. Students in all classes need help learning how to learn the material. You may not have imagined that you would be teaching how to learn vocabulary in your college courses, but that may be just what your students need. Above all, students should not be berated if they don't know things that weren't taught in high school. Accept students where they are and help them to go forward. They need a college education!

3. PLAN FOR INSTRUCTIONAL MANAGEMENT.

For decades, college instructors never thought of classroom management as something they had to plan, but times have changed and today's college students need to know what's happening. Posting a visual outline of what will be done during the class helps students follow the lesson and stay on task. Various aspects of teaching, such as distributing papers, taking attendance, and making time for students to ask questions, need to be part of course planning. Put policies in the syllabus about attendance, disturbances, cell phones, etc., and then review those policies with students. You set the tone of the class, and management procedures are needed.

4. TEACH WITH A VARIETY OF STRATEGIES.

Study the literature and learn about approaches such as learner-centered teaching, guided inquiry, active learning, lecture, group work, and online discussion. Use what works best given your content and your students' learning needs. The best advice is to be visual, followed by keeping students actively thinking, writing, comparing, and applying new knowledge.

Students learn more easily when they've been given the rationale for what they are learning, and when they understand why the teacher has chosen certain instructional methods and learning activities.

5. USE ASSESSMENT TO INFORM STUDENTS OF THEIR ACHIEVEMENT.

Today's students are used to checking their grades online so they know where they stand at any given time in the semester. Grading policies need to be clear and grading scales easy to use. Share your grading policy in writing on the syllabus and then show exactly how it works after the first big exam, paper, or assignment. Remind students that assessment is more than the assigning of a grade. Assessment helps them to understand their achievement and helps teachers meet their needs.

6. KEEP THE PASSION.

It is very easy to become disheartened by student complaints, lack of administrative support, budget cuts, and job insecurity. However, what is it that drew you to your discipline originally? For most of us, it was a true passion for the subject, a desire to learn all about it, and a further desire to then share that knowledge. In higher education, we have opportunities to learn, research, teach, and shape the future of our disciplines and influence the larger world through our disciplines. Successful college teachers recognize that many of today's college students have learning needs. Taking actions like these helps them to meet those challenges successfully.

How to Improve and Promote Student Engagement in the Online Classroom

J. Prakash Assistant Professor Department of CSE HICET

The online classroom can be challenging when it comes to engagement and presence. Students often enter the online classroom nervous, not just about content but about the practicalities of learning in the online environment. As an instructor, it is important to know that your students are motivated to attend your course and eager to learn the subject topic. Online classrooms optimized to success, regardless of the learner profile, will share these key traits and characteristics:

Connection

Consistency

Content

Community

Compassion

Connection

Initially, students need to feel a connection. They need to feel connected to you as an instructor, and they need to feel connected to your classroom. Connection draws them in and fosters a sense of belonging. Some pointers that help students feel engaged are first to recognize them as a person, and then to show you care about their success in the course. The big question is, Why is that important and how do we go about doing it? The "why" is because students are entering a new world when starting a new course, and they may feel guarded in asking questions and may suffer in their classroom performance.

The instructor needs to know and demonstrate ongoing knowledge about their students. If students have a preferred name, remember and use that name. If they share personal stories related to their ability to complete coursework, take note and be sure to account for those situations in future interactions. When the instructor demonstrates care, students often find themselves trusting the instructor in helping them find success. Students are also more likely to want to succeed because they sense their instructor's investment.

Creating a connection can boost student confidence and promote an effective classroom experience. Research has shown when online faculty share caring behaviors, it promotes student persistence (Smith, 2013). Gallup's research also shared that when a student perceived their professor cared about them, they were more likely to become more engaged and feel more positive about their college experience (Gallup, 2020). It is interesting to note that students who have successfully graduated also tend to feel that their professors cared about them (Gallup, 2020).

However, some students don't make it to graduation. It doesn't matter what college or university system a student attends, it is usually the first few semesters that are crucial for a student to stay engaged and persist. One survey that was sent to students who had dropped out shared that the number one reason they dropped out early from their courses was because they did not feel connected.

The challenge to consider is how to help students feel connected, and specifically, how to do this in the online environment. The bottom line is that faculty will need to demonstrate they are invested in their students' success and in turn be perceived by their students as caring.

Consistency

As we connect, we need to ensure we are being consistent. It is very important to avoid students getting a "bad connection"—a la "Can you hear me now?" A key finding for Colorado Technical University (CTU) has been the importance of the consistency of the experience. This starts with creating a consistent course experience from session to session—similar due date cadences, course set up, location of items in the Learning Management Software (LMS), and terminology. When one instructor guides students to a discussion board and another a discussion forum, and the next requires a "first post" vs. a "primary post," new students end up feeling lost and uncertain as to whether they understand how their courses work. If two classes both include a discussion activity and an interactive activity each week, but one faculty heavily weights the discussion while the other heavily weights the interactivity, students may become confused on how to prioritize. We have also found it critical to place important items in the same places in the LMS from course to course. If course materials are located within the assignment prompt in some classes but under unit resources in others, students become frustrated trying to keep track of where to go to get what they need. Think about "The Starbucks Experience," where no matter where you are, you know exactly what you will experience if you walk into a Starbucks. That approach makes a significant difference for novice online learners.

Consistency is also absolutely critical from a technological perspective. Novice students may lack basic technology needed for a consistent online learning experience, including up-to-date devices and regular access to high-speed internet. Recently, our mobile manager shared that a student called in this year trying to get our app to open on a 2000 Mac computer, and our technology was no longer compatible. The technology you ask students to use should be a simple tool that provides easy access to content. Seamless and easily accessible are far more critical than flashy and innovative. Your university technology should not present additional barriers to access content. It's also critical to orient students to your technology, your course design, and your university's vocabulary, and to do so in small, easy-toconsume learning opportunities at their time of need—usually within their first year. Trying to cram everything they need to know to acclimate to your technology and your LMS in an early orientation will likely lead to frustration and content overload without real absorption of knowledge.

Content

Being consistent allows us to place our students' focus on course content. Research conducted in partnership with Every Learner Everywhere has shown that students moving from in-person to online classroom formats find connecting with content more difficult online. In the first year, students must quickly sense the value of their course content, and they must feel bolstered in their ability to successfully engage with and learn the content. As such, it is vital that course content be appropriately leveled and designed for novice higher education students. Courses leveled too low leave students disengaged and unsure of the value of their classes, but courses leveled too high often feed into student insecurities about their ability to succeed. Students drawn to online education generally face competing priorities, and many need to fit their education into and around other major priorities. Creating content chunks that are easy to consume and can be tackled in spurts of studying rather than in long study sessions often increases chances of student success in early courses.

The content should also feel relevant and applicable. Online instructors should not assume students will automatically transfer knowledge from the classroom into real-life application scenarios, even in cases that might feel obvious. As such, faculty should foster application opportunities to drive home the relevance of content and skills being learned. This element is particularly important in first-year courses and especially in early general education courses. CTU utilizes a series of student avatars whose demographics and background model those of a typical CTU student in first-year courses. These avatars are presented

with real-life scenarios where they can apply course concepts. Students are also asked to help the avatars apply course concepts in scenariobased assignments.

Community

Additionally, the opportunity for community must be a clear goal for online classes and programs. Colleges have long known that creating effective community ties students to the school and enhances learning. Yet, community in online classes is often treated as an afterthought or dismissed as impractical. In actuality, community is just as critical in online spaces. One of the primary reasons students cited lower satisfaction with online courses in the previously mentioned Every Learner Everywhere study was lack of opportunity to engage and collaborate with peers (Morris 2020). Online students often sacrifice local community time in order to fit online classes into their lives. And, even worse, disadvantaged college students often discover widening chasms between themselves and their personal community as they move through their education.

As such, developing opportunities to create community space and foster relationships between students becomes vital to student health, retention, and engagement. CTU has found success in fostering community through the use of video platform tools for synchronous sessions between students and faculty, along with offering Zoom capability for group projects in higher level courses. Additionally, CTU has partnered with a company called GetSet to create a student-led community, similar to a social media platform but only accessible by CTU students. More than 55% of our student population utilizes GetSet on an ongoing basis, with over 60% of associate students, 57% of bachelors students, and 56% of doctoral students on the platform. More than 40% of our new students utilize GetSet before they start their first course session, posing questions to continuing students and meeting peers. GetSet is a place for students to connect with peers who have similar interests, stories, and/or goals. Students who engage in GetSet have a 200 base point percentage (bps) improvement in retention compared to those who do not utilize the platform. Building their virtual

community connects them to the university, their program, and enhances their learning.

Compassion

Finally, we must consider compassion. How many emails have you received with an email signature similar to "We're here to support" or "Let me know how I can help?" And, how often do you perceive those to be figurative gestures rather than sincere offers? Online students often choose the online environment due to juggling multiple priorities, this includes hectic work schedules, demanding home lives, and/or challenging health situations. At CTU, we use an instant messaging system that allows for quick contact between faculty and students. With the introduction of this platform, we found that students were more often sharing personal stories and challenges with their instructors. Too often, faculty were ill-equipped to support students, either unsure of how to support students or viewing their role as strictly academic. They may also perceive the offer of empathy and flexibility as equating to lessening the rigor in a course.

Rigor and compassion can and should go hand-in-hand. For many online students, appropriate prioritization means that assignments may be late or need to be made up so they can care for family members, their own health, or meet unexpected work demands. These students often need empathy and understanding, but more than that, they need classroom support and guidance, with practical suggestions of how they might rework their upcoming deadlines and due dates, or guidance on what to prioritize in their coursework. CTU has provided both asynchronous and synchronous training sessions on this type of support and includes it in the new faculty orientation course as well. Sometimes the only helping hand our students may receive in times of serious need is the virtual hand of their faculty.

Student engagement is key to driving success in the classroom. The online learning environment creates different challenges to ensure students will show up and be an active participant in the classroom

Department Related Information

1. Seminar on "Guidelines for overseas education"

One day Seminar on Guidelines for overseas education was conducted on 17th of march 2021. It was inaugurated by Dr.S.Shankar, Head of the Departm*e*nt.

The session was very informative based on Guidelines for overseas education.



A party of around 120 students from CSE department have benefited through this program. The event was organized by Team Association CSE. The session was handled by Mr.Prasanna Krishna, Subramaniam, CEO, Founder Career

2. Webinar on Open Source- Red Hat Techniques and Global Certification

Zone Worldwide, Coimbatore.

Webinar on Open Source- Red Hat Techniques and Global Certification was conducted on 3rd February 2021. It was inaugurated by Dr.S.Shankar, Head of the Department. The Session was handled by Mr N Karthivel, Instructor, Red Hat.

A party of around 120 students from CSE department have benefited through this program. The event was organized by Team Association CSE.

3. Webinar on E-Content

One day seminar on E-Content was conducted on 23rd March to 25th March 2021.

It was inaugurated by Dr.S.Shankar, Head of the Department.

A party of around 200 staffs from Hindusthan College of Engineering and Technology have benefited through this program. The event was organized by CSE department .

The session was handled by Ms.M.Ramyadevi, AP/CSE, HICET and Ms.N.Subasri, AP/CSE, HICET.

PLACED STUDENTS

(2017-21Batch)



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(2017-21Batch)



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