Establishing a Constructive Mentoring Scheme for Engineering Students - A Case Study

Santhanamari G.[*1], Deepa M. [*2], Susithra N. [*3], and Reba P.[*4]

*Department of Electronics and Communication Engineering, PSG Institute of Technology and Applied Research
[1]gsm@psgitech.ac.in, [2]deepa.mohanram@gmail.com, [3]nsusithra90@gmail.com, [4]rebasatheesh@gmail.com

Abstract—**The students of generation Z are more independent, technology savvy and socially connected. Even though technology has shrunk the universe and all knowledge resources seem to be just a click away, inculcating moral values, providing continuous technical guidance and psycho-social assistance for a holistic development cannot be provided by mere technological tools and the virtual world wide web. Teaching is a noble profession with no materialistic benefit and is service oriented. The teacher not only strives to create an atmosphere conducive to learning as an instructor, but also imparts the necessary skills needed for lifelong learning while playing multifaceted roles such as mentor, facilitator, motivator, guide and advisor. Mentors with technical expertise and social experience are required to steer the students in the right direction at the right time.**

This case study apprehends the outcome of a sequential mentoring process that is being practiced in our institution. It has greatly influenced the personal and professional development of the engineering students right from their first academic year. The end-to-end process of mentoring which encompasses an extensive induction programme, cultivation of healthy relationships through various mentoring models, sustenance of the mentor-mentee relationship, and closing the loop by facilitating the graduates contribute mentorship back to their alma mater is elucidated in this work. This structured mentoring strategy helps the students tap their latent potential and attain the personal and professional outcomes. The study highlights the importance of 'knowing the mentee' through a personality assessment test without judging them and thereby helping them achieve their short-term goals and long-term aspirations. This structured mentoring strategy enhanced the students' performance in academics, active participation in co-curricular activities, both inside and outside the institution and also shaped them into a holistic individual. Such impacts were observed by collecting the student participation data and a feedback survey.

Keywords—Mentoring; teacher-student relationship; induction; cultivation; redefinition.

I. INTRODUCTION

WITH the advent of ICT tools and advancements in technology, it has become imperative that every individual needs to constantly adapt to the ever-changing technological demands. An individual must also strive to enhance 21st century skills, namely Communication, Collaboration, Critical Thinking, and Creativity, which are called the 4Cs (Astuti et al., 2019). While technological knowledge can be gained through various resources including self-learning, the much-needed life skills and the 4Cs can be acquired through proper support and guidance from the society including parents, teachers and peers.

Every student is expected to have a personal and professional goal or vision that they wish to achieve at the end of their undergraduate education. Enormous amounts of effort are exercised by the higher education institutions towards the vision in terms of several mission accomplishments by providing several professional skill development programs and activities. Besides, in order to sustain their passion towards the goals the students seek help from elders, experts, teachers, peers and seniors. Hence, it is essential to establish positive interpersonal relationships to grow together as a society (Green et al., 2012).

In order to facilitate students to shape themselves through the four years of undergraduate life, Mentoring practices have been implemented in Higher Education Institutes. Mentoring forms a vital part of one's journey towards emotional well-being, personal and professional development. Mentoring also plays a vital role in acquiring practical skills and experiential knowledge (Liu et al., 2011, Pullins et al., 2002). Teaching faculty play an indispensable extended role as a mentor to the students in addition to providing them with the necessary academic knowledge that aids their career goals (DiRenso et al., 2010). They also pave the way towards the development of a collaborative environment for knowledge exchange and networking. They provide guidance and suggestions to supplement and improve their co-curricular and extracurricular skills. They act as pillars of support by providing psycho-social emotional support (Risquez et al., 2012). They also facilitate seamless transition from the school to college life and provide them a fundamental basis for their transition to the workplace/industry. The mentors encourage the students to actively participate in different activities, overcoming their inhibitions and exploring their latent talents. They help students to build their confidence and self-esteem beyond providing them the right cautions on the potential pitfalls. Personalized guidance is also provided in order to gauge and improve the attitude of the students. (Crisp et al., 2009, Crisp et al., 2017, Griffin et al., 2020, Malmgren et al., 2010).

As a mentor, the faculty should be able to exhibit fairness, honesty, genuineness and establish a climate of trust towards their students. They must be knowledgeable about the programme to render program specific advice. Faculty should appreciate the positive efforts of students and they should be able to kindle their personal interests by constructive criticism and encouragement. He/she should be a committed and value driven person and serve as a role model in inculcating the same

to their students. Faculty should possess a willingness to listen to the students and provide guidance wherever required (Fedynich et al., 2011). It is also essential that the attitude of a teacher doesn't daunt the student's good intentions. Mentoring programs act as a platform for undergraduates to understand the purpose of life and thereby transform oneself into a responsible citizen. Mentoring is proven to increase the success rate of students, particularly in terms of placements and higher studies. Mentoring activities enable the organization to reach greater heights by eliminating the mental barriers in their students.

A. Challenges posed to Mentoring Process:

The Internet has become a major source of knowledge and reference repository for the students. In fact, self-learning through online digital content has become a major competitor to real-live teachers. The information made available on the internet is exceedingly large and the students tend to get lost in trying to collect the correct information. Thus, there is an abundance of opportunities that are available and students need proper guidance to choose the right one at the right time. Mentors act as facilitators in guiding students in the proper direction, with their past experiences and learnings.

One other challenge that lay before the mentors in the current times, is to guide the tech savvy Gen Z students. In addition to understanding the generation's aspirations, skills and capabilities, it is also important to understand and address their individual weaknesses. Especially in the prevailing pandemic time, where the teacher and student are remote, the students tend to get disconnected/distracted from the virtual classrooms easily and get engrossed in their own digital world. Some students even expect that they would be able to meet their mentors often in order to get guidance and support. Also, ICT along with the virtual communication tools plays a major role in minimizing the physical and psychological distance between the mentors and mentees. Faculty go out of their comfort zones to get connected with the students in an active mentoring process and this also helps the faculty mentor in knowing the mentee. In order to overcome the above challenges, mentoring has to be done right from the first year onwards, to gain trust and confidence of the mentee and support him in all ways to achieve personal and professional excellence.

II. LITERATURE SURVEY

Different definitions of mentoring have been provided in the literature. Blackwell (1989) quotes "Mentoring is a process by which persons of superior rank, special achievements, and prestige instruct, counsel, guide, and facilitate the intellectual and/or career development of persons identified as proteges." Mentoring is a process of lending support to the mentees in the form of knowledge, experience and advice at the right time, thereby paving the way for professional and personal development (Bierema et al., 2002, Akili 2014, Marsh 2017). Effective mentoring fosters the growth of mentees as well as mentors. Having involved in good mentoring relationships makes both the mentors and mentees to be successful and creates a life-long bond between the mentee and mentor. Moses

(1989) states mentoring as "Ideally, a professor takes an undergraduate or graduate student under his or her wing, helps the student set goals and develop skills, and facilitates the student's successful entry into academic and professional circles".

National Educational Policy 2020 (NEP 2020) has acknowledged that the mentors play a significant role towards building responsible, committed and diligent graduates. It was also suggested that a National Mission for Mentoring shall be established to provide short and long-term mentoring/professional support to university/college teachers (14.4.2 and 15.11 in NEP 2020). The characteristics of a good mentor as quoted in the panel discussion: "Making Mentoring Relevant NEP 2020 perspective" (Theme 2 - The science of mentoring relationship), by NITTTR are: Being able to spot the right potential, being a Resourceful Guide, displaying Patience and Tolerance, providing timely encouragement and support and being able to foresee the Big Picture. The roles of a mentor include listening and sharing experiences, fostering skill building, and building fruitful network connections. The characteristics of a good mentee are: being goal-oriented, seeking challenges by taking initiatives, showing eagerness to learn and accepting personal responsibility. It was also noted that mentorship can be used as a strategic technique to excel in academics, in building successful citizens and in overcoming challenges of nation building. In order to address the gaps in manpower development, inputs from all stakeholders may be considered to get an overall perspective and effectiveness of mentoring.

Mentoring is highly associated with undergraduate education and it is increasingly considered as a strategy to improve undergraduate academic success. The mentor can be a faculty member or a senior or a fellow student (Jacobi, M. 1991). In Akili, W. (2014) the authors explained how an engineering faculty can become a mentor for engineering students. They highlighted that, instead of listing some attributes/instructions for effective mentoring, and asking the mentors to implement all at once, the faculty members can take small steps, i.e effectively implement one step every time and they could observe a big change in the performance of the students. Murray et al., (2015), highlights the results of mentoring initiatives among civil engineering undergraduate students who obtained vocational placements through effective mentoring. The authors also highlighted the behavioural and attitudinal changes that are seen in the mentees and their extension of commitment towards their professional development. Lim et al., (2017), explains about the importance of having peer mentoring, particularly to support first year engineering students and to help them in transition to the college environment. They also emphasized the importance of organizing more training programmes to provide continuous support to the mentors despite their achievement in peer mentoring.

Collings et al., (2014), highlighted the effects of peer mentoring among the students of higher education. The authors emphasized that the peer mentoring brings positive effects and boosts self-esteem among students and it acts as a pillar of

support to the first-year students. In McKinsey, E. (2016), the author insisted on declaring mentoring to be an institutional priority. It demanded the formulation of institute level mission statements which supported mentoring as a policy to make graduates not only excel in education but also have a holistic development and lead a contented life.

In Ntshinga et. al. (2008) , the authors explained an end-to-end process of establishing a STSM (Student to Student Mentorship programme). In this method, the students with good academic skills are chosen as mentors after a rigorous screening process by the faculty and the other learners. The faculty act as facilitators in setting up the STSM program, and they organize orientation and awareness programmes to introduce the mentoring basics for the students. Hart, E et al., (2020), explains the strategies which were carried out to actively include the female students in undergraduate engineering programs within the STEM. The authors designed the mentoring program by incorporating the Lean Six sigma principles, thereby collecting the views of mentors and mentees in the initialization phase. In Huizing, R. L. (2012), the authors categorized the types of mentoring into five categories; peer mentoring, one-to-one peer mentoring, one-to-many peer mentoring, many-to-many peer mentoring, and many-to-one peer mentoring. The mentorship model pointed out in Kaul et al., (2015), mainly focuses on peer mentoring in addition to the conventional faculty-student mentoring. This peer mentoring allows a vertical integration of cohorts of all years through different project-based learning courses and it ensures deeper student engagement beyond their regular activities. The authors pointed out that incorporating mentoring activities in engineering curriculum in turn increases the enrollment of minority students.

In Mukeredzi, T. G. (2017), the authors pointed out that, through mentoring the mentors could acquire professional knowledge on different teaching styles and the aspects of learner engagement. In Montgomery, B. L. (2017) the authors presented a roadmap for the mentoring process. The roadmap starts with a self-reflection phase, which helps the mentors and mentees to identify the needs and target goals for professional development. The subsequent phases in the mentoring roadmap are the establishment and maintaining phase. Establishing effective mentoring relationships by both the mentor and mentee in the establishment phase Maintaining phase is equivalent to the cultivation phase, further support required for their academic / career advancement is provided in this phase. While periodically reviewing the mentor-mentee goals, if they felt that the mentor support is no longer needed the mentoring process gets concluded. The Authors named this phase as the moving ahead phase.

In Tinoco-Giraldo, H., et al., (2020), the authors pointed out the growing popularity of e-mentoring using ICT tools for both faculty-student and student -to-student in higher education. This mentoring strategy is specifically used in-order to facilitate the seamless connection between the mentor-mentees. The authors also stated that the educational leaders are also willing to assume the role of mentor and be integrated into the mentoring process by providing a global vision and extending

their managerial support.

Some previous studies also discuss the negative effects of mentoring. Instead of mentors being supportive in all aspects for the mentees, they may sometimes define unrealistic goals and plan strategies for achieving those goals in an egalitarian manner. The mentors may sometimes play a traditional mentor role, sticking on to their expertise instead of being flexible to the mentees. This necessitates the need for frequent training in order to keep the mentors emotionally strong and fostering towards the professional development of both mentors and mentees (Christie, H. 2014).

III. OBJECTIVES

The objective of this case study is to apprehend the outcome of a sequential mentoring process that the authors practiced in their institution, and influenced the personal and professional development of the engineering students. The study was conducted for two consecutive undergraduate batches of 60 students each, from the Electronics and Communication Engineering programme.

The end-to-end process of prediction of outcomes, induction of students, cultivation of regular practices that sustain the mentor-mentee relationship, and closing the loop by making the graduates contribute mentorship back to the alma mater is elucidated in this work.

IV. MENTORING METHODOLOGY

The mentoring activities carried out are divided into three phases. The following section explains the different activities carried out in each phase.

A. Induction Phase

The first phase of the mentoring process is the structured "Induction Phase" where the students are introduced to three faculty mentors during their very first day of undergraduate education, who continue to support and encourage throughout the mentee's journey of engineering education. In order to have a close mentor-mentee relationship, with continuous follow up, the mentors are allotted in 1:20 ratio. Hence, in the class of 60 students, 20 wards are assigned to each mentor. The induction phase was being meticulously planned and conducted for a time span of 21 days. The first year students of all programme were formed into cohorts named A, B, C and D with each cohort constituting students from various engineering streams. The various activities conducted as part of the Induction phase are illustrated in Fig 1 and a sample schedule for a day in the programme is provided in the Appendix section (Fig 4).

Faculty members, assigned as mentors, induct the first-year students into higher education by demystifying the jargon and familiarizing them with the teaching practices and other activities followed in the institution, during a mentor ward meeting session. They are also encouraged to become a part of the various Clubs and Associations in the institution depending on their personal interests. The list of clubs and associations actively functioning in our institution is provided in Appendix I. Moreover, the curious doubts asked by the freshers are also addressed during the session.
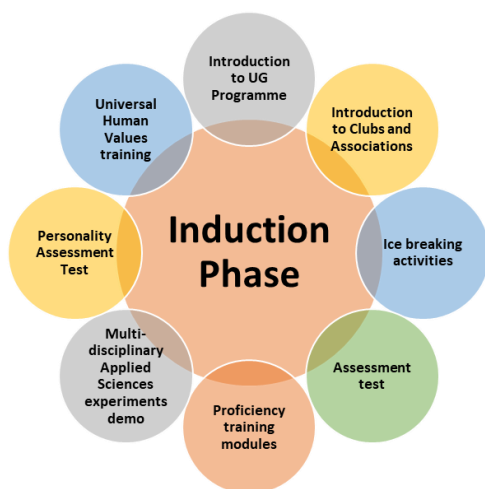
Fig 1: Activities conducted as a part of Induction phase

Ice breaking activities are also conducted to involve the students towards effective communication and deeper engagement. This makes the students feel comfortable and adjusted in the new environment and helps them build bonds with other students. Besides these activities, the students are provided with bridge courses to ensure seamless transition to the undergraduate programme. In order to gauge his level of proficiency in skill sets like aptitude, logical reasoning, programming and English language, they are subjected to assessment tests. Based on the assessment results, Proficiency training modules were provided in the form of Programming skill development module (Level I – Basic Coding and Level II -Advanced Coding), Mathematics Coaching module and Language Practice module.

In order to emphasize application of basic science principles in the engineering domain, multi-disciplinary Applied Science experiments were conducted and demonstrated to the students. This fosters the culture of experiential learning in the minds of the students from the very beginning of the programme.
One of the necessary attributes towards effective mentoring is 'Knowing the mentee'. To ensure deeper engagement and to establish a strong bonding between the mentor and mentee, mentors gauge the personality of the mentee. This is carried out through a Personality Assessment Test based on the Triguna model. A set of dispositions based on common human traits are framed to assess the self-beliefs of the students and understand their true nature, which is later mapped to the three Gunas. This helps to understand the mental makeup of the students based on their predominant personalities - namely Rajas (aggressively energetic with strong emotions), Tamas (ignorant, confused and inactive) and Satvik (virtuous, gentle and energetic) (Sharma et al., 2016). With the knowledge of their personality, faculty mentor adopts different approaches while dealing with different categories of mentee.

Universal Human Value (UHV) classes are conducted as a part of the induction programme to expose them to a sense of larger purpose and self-exploration. Case studies were presented and solutions to the same were discussed on a one-to-one basis. This helped students to mitigate the psychological, intrapersonal, interpersonal and socioemotional issues and carry forward the coping strategies for future references. Also, follow up sessions were conducted at regular intervals to revisit

and energize the young minds. This programme also helped the students in exploring their inner potential; inculcating the ethos and culture of the institution.

The students are also exposed to sessions by industry professionals, where they get to know about the current edge technologies and research topics related to their course of study. The students are provided with motivating sessions from distinguished alumni where they share their experiences to guide the young minds. They also point out their key learnings from their experience during student hood, and opportunities that they missed and encourage the students to take part in different activities right from the beginning.

B. Cultivation Phase

As a part of building the mentor-mentee relationship, and continuing the same through the four years of engineering education, the students are allowed to grow under the guidance of their mentors. This phase is similar to the maintaining phase quoted by Montgomery, B. L. (2017). The second phase refers to the establishment of the mentor mentee relationship through structured bi monthly meetings. The first meeting of every semester is used for setting the short-term goal for the students in terms of academic as well as co-curricular activities. A brief overview of the different theory and laboratory courses for the semester is presented by the mentors to the students as a part of the academic briefing. Inclusive support systems are provided to the students from vocational training and diploma backgrounds. The co-curricular activities planned for the semester like value added courses and workshops are elaborated. The students are also made aware and given a glimpse of the other domain specific opportunities like seminars, online courses apart from the curricular activities. Through the weekly interactions students start developing good rapport with their mentors and fall back to the mentors for any kind of help. The mentors also help in resolving the hurdles along their academic journey. Mentors also impart the basic etiquettes like discipline, respect, gratitude and humility through life cases and motivating talks.

Apart from academics, collaborative activities like industry/other college contests, paper/project presentations and academic/industry interactions are highly encouraged in order to cultivate the skills of team building, collaboration and leadership. The groups for the collaborative activities are formed based on the guna classification Sattva, Rajas and Tamas, in order to maintain team cohesiveness. Students with a predominant Sattva guna are naturally capable of adapting to different situations and can convert any challenging scenario into a growth promoting opportunity. While, a student with more inclination to Tamas guna inherently possesses inertia and procrastination. Even though the students with Rajas guna are known to possess compulsive qualities of energy, passion and action, they also exhibit self-centeredness and are not conducive for promoting positive and harmonious group interactions (Sharma et al., 2016). So, students with predominant Sattva guna were identified and added to each of

the teams in order to facilitate effective collaboration and positive interdependence among the students.

The mentors follow collaborative mentoring practices by facilitating students to take up mini projects that could provide a hands-on/implementational experience to their theoretical knowledge, starting from the first semester through an enriched blended approach (Deepa M et al., 2021). They are also encouraged to take up multidisciplinary projects by collaborating with senior students from various disciplines, as a co-curricular activity. Mentors ensure that all the students be a part of project teams in an inclusive manner , through personal follow-up meets such that the team comprises diverse triguna dominant students. The progress of collaborative works is reported to the tutors periodically during review sessions beyond working hours and completed works are showcased in an exhibition organised by the mentors in collaboration with professional societies and alumni panellists. The robust support from the seniors play a very crucial role in moulding the young minds with their experiential knowledge in implementing real time projects. Mentors also encourage their wards to enrol themselves in online courses in order to promote self-learning, in addition to academic subjects and labs.

The mentors provide details of internship opportunities time to time in order to provide them an early exposure to the industry environments. The students get to know the expectations of the industry and prepare accordingly. They are provided with various opportunities to interact with the industrial giants and to learn about various happenings in other institutions by becoming a part of professional society. The reports on the structured bi monthly meetings are submitted and subjected to review by the programme assessment committee.

One-to-one counselling phase

This is a non-structured meeting between a mentee and mentor on a need basis via live meeting in the department or telephonic conversation, for academically weak students, students who seemed inactive/ irregular in classes. The aim of the one-to-one counselling is to provide the required psychological and emotional support when they suffer a mental exhaustion. This is similar to a type of mentoring pointed out by Huizing, R. L. (2012). The students are also encouraged to participate in self-development programmes organised in the institution like 'Knowing thyself', 'Tai Chi', 'YES+ Programme' spanning from one day to a week, and weekly sessions on 'Perfume of silence' through self-inquiry club in order to get rid of their mental apprehensions, which remain a hindrance to their success. Faculty mentors are also equipped in providing psychological first aid to the students as they have attended faculty self- development programmes. Besides, mentors may also recommend the students based on their case, to institution's professional counsellor.
The mentors also get to know the economic background of their mentees and guide them with government and private scholarships opportunities available to them.

C. Redefinition Phase

This phase refers to the parting phase between the mentee and the mentor, where in the relationship takes a whole new phase. The mentored students get placed in reputed companies or they get into top notch universities for post-graduation. The redefinition phase starts once the student gets a placement offer from a reputed organisation/higher studies opportunity from top universities. The students take this opportunity to provide peer mentoring to their fellow mates. Mentors also encourage the placed students to guide the fellow peers in their placement activities.

Once the students graduate, they now become the alumni for the forthcoming batches. The mentor relationships established during the college days serves as a good platform to invite the alumni back to their alma mater for alumni interaction with the current students. They are involved in providing the right career guidance, support and advice to the students in addition to providing scholarships and financial support to the low-income students. The distinguished alumni are also invited to participate in alumni sessions conducted during the induction phase. The mind map in Fig 2 gives an overview of the various activities conducted as a part of the mentoring process.
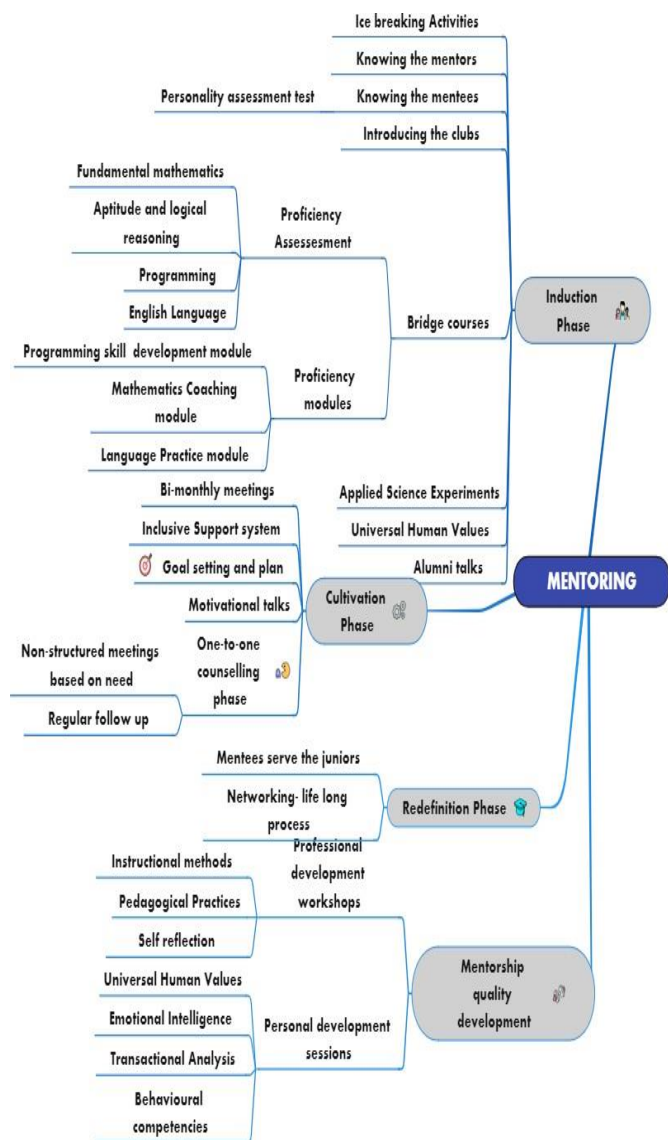
Fig 2: Mind Map of various activities in different phases of mentoring

V. ACTIVITIES FOR THE MENTORS

The millennial education has transformed the faculty from being mere content providers to providing service to the students. There is a paradigm shift in the mindset of the faculty members to serve the students without expecting anything in return. In order to enhance this transition, many professional development activities pertaining to the topics of Universal Human Values, Emotional Intelligence, Transactional Analysis, Behavioural competencies are offered to the mentors. New faculty are also inducted into the college atmosphere to get familiarized with the institutional culture and practices, ethos, instructional methods and pedagogical teaching methodologies following in the institution. Faculty also perform a self-reflection activity at the end of every semester to retrospect and refine the shortfalls that happened during the past semester depending on the feedback received from the students and take corrective actions for improvement in the upcoming semester.

VI. RESULTS AND DISCUSSIONS

This section discusses the efficacy of mentorship programmes conducted for the undergraduate students of two consecutive batches. An independent sample t-test was conducted between the two batches to compare their performances (cut off marks) in their higher secondary education. It was inferred that the two batches did not have significant evidence of difference since the p-value was obtained as 0.48 which is far greater than the threshold 0.05 (Thiruvengadam, S. J et al. 2021). The two cohorts under study were thus having similar academic capability while entering the undergraduate programme.

Batch 1 was subjected to a comprehensive mentoring program without clear strategic planning and structured activities, while Batch 2 was mentored in different phases strategically with clearly defined vision and continuous feedback system, as described in previous sections. The findings in this study are based on the analysis of the performance data gathered from the un-structured mentorship of Batch 1 and the structured mentoring of Batch 2.

Table 1 compares the performance of consecutive batches of students in all spheres including academic scores, participation in extra and co-curricular events, online certifications, and projects done after their first year of graduation. There is a significant rise in the number of active participants both in inter and intra collegiate activities.

TABLE I: COMPARISON OF PERFORMANCE OF CONSECUTIVE STUDENT BATCHES IN THE FIRST ACADEMIC YEAR.

Activity	Batch 1 (Batch size - 60)	Batch 2 (Batch size - 55)
Academic Performance (Average GPA)	8.1	8.5
Pass percentage	96%	98%
Number of Students participated in co-curricular and extracurricular events inside the institution.	35	50
Number of Students participated in co-curricular and extracurricular events outside the institution	20	48
Number of students taken up Self Learning - Online courses and certification	5	19
Number of team Mini Projects	15	33

The mentoring process would also be continued for the remaining three years of graduation. However, once the performance results and outcomes attainment after their

graduation is available, the mentorship program can be extended to cover a larger percentage of students.

A. Survey Questionnaire

The following survey statements were used to collect the students' feedback on the mentoring outcomes from the first academic year and the responses are shown in Fig 3.

- Mentors have helped me accustom to the new college ambience.
- Mentors have elaborated the various graduate attributes that form the basis of our career goals.
- Mentors have exposed the possible opportunities like careers, internships, research, industry, online courses and workshops
- Mentors have helped me to acquire skills through vertical integration of cohorts by closely observing, interacting and collaborating with peers, senior students and alumni.
- Mentors have helped in analysing and identifying my strengths and weaknesses.
- Mentors have helped me appreciate the need for continuous lifelong learning.
- Mentors are easily reachable and I feel comfortable to share and consult personal and professional concerns with them.
- Mentors instill a culture of positive attitude and ethical practices.
- Mentors have helped me to appreciate the need for a combination of design, analysis and hands-on skills.
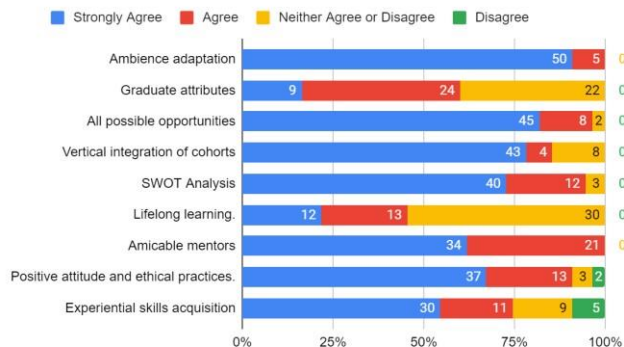

Fig 3: Survey Responses

VII. CONCLUSION

The mentoring program proposed in this paper presents an elaborate study of the process of structured mentoring activities carried out to enhance the faculty student relationships beyond the day-to-day course work. The long term goal of this mentoring program is to create competent and socially responsible engineers, who adhere to moral and ethical values in service to society and industry. The program proposes structured integration of various mentoring strategies with a comprehensive induction programme that renders a conducive learning atmosphere for the students. Such a planned and well organised mentorship model has increased the student engagement in academics, co-curricular and extracurricular activities to a larger extent. This mentoring strategy will serve as a model that can be adapted to be followed in the subsequent years. However, the success of the strategic model can be measured by periodically tracking the students' progress over a few years. The future scope of the study is to comprehensively assess the efficacy of all the different components of the overall mentorship program explained in this paper.

APPENDIX A

List of Clubs

NSS Club
NCC Club
YRC and RRC
ECO club
Yoga and Meditation club
Itech Music Club
Tamil Aindhinai Mandram
English Literary Forum
Astronomy and Nature Club
Entrepreneurship club
Dance Club
Higher Education Forum
Drawing and Painting Club
Itech Dialague
Self- Inquiry Club and Universal Human values
Harmony Club
Cooking Club
Hindi Gyanshethr
Photography Club
Quiz club
Radio Club
Coding Club
Rotaract Club

Date	09:00 am to 10:00 am	06.30 am to 07.00 am – Yoga Practice									
		10:30 am to 12:30 pm				01:30 pm to 03:00 pm		03:15 pm to 05:15 pm			
		Universal Human Values				Proficiency Modules		Universal Human Values			
		A1 Venue:E3 303	**B1** Venue:E3 304	**C1** Venue: E3 305	**D1** Venue: E3 306	**E** Coding I Venue:E3 303	**F** Coding II Venue:E3 303	**A2** Venue: E3 303	**B2** Venue:E3 304	**C2** Venue: E3 305	**D2** Venue: E3 306
		Applied Science Laboratory						Applied Science Laboratory			
10/11/2020 Tuesday	**All Students** Alumnus Address *"Learning Leadership Skills"*	**A2** Verification of Faraday's Law using Capstone software Venue: **Siemens Lab**	**B2** Force measurement using strain gauges-Capstone software Venue: **PASCO Lab**	**C2** Thermocouple and fan actuation using LabVIEW Venue: **Sensorics Lab**	**D2** Spirometry using LabVIEW Venue: **NI Lab**	**G** Mathematics Venue:E3 303	**H** Language Venue:E3 303	**A1** Verification of Faraday's Law using Capstone software Venue: **Siemens Lab**	**B1** Force measurement using strain gauges-Capstone software Venue: **PASCO Lab**	**C1** Thermocouple and fan actuation using LabVIEW Venue: **Sensorics Lab**	**D1** Spirometry using LabVIEW Venue: **NI Lab**

*A1, A2, B1, B2, C1, C2, D1, and D2: All programme students divided into smaller batches
* E, F, G, and H: All students divided into batches based on the proficiency test

Fig 4: Sample Student Induction program Schedule for one day

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