

Best Practices for Student Satisfaction in Achieving Academic Excellence – An Empirical Research



R.Tamil Selvi, K.Sivananda Devi , S.Aramuthakannan

Abstract: *With the advent of technology and the challenges of engaging the students positively in the classroom, there is a humongous responsibility on the part of the educators, to satisfy the requirements of the students. The objective of the study is to investigate the effect of best practices in achieving students' satisfaction. Some of the best practices that have been considered for achieving student satisfaction in this paper include academic (teaching learning process and knowledge acquisition and skills), social (a sense of belonging and interaction with faculty and peers), and environmental (sense of connectedness and utilization of campus resources). An innovative Student Satisfaction Measuring Instrument (SSMI) was developed and used to measure the students' satisfaction with reference to achieving academic excellence. The pilot study was administered for 20 students before the actual application of the instrument. Based on the feedback from the students and peers, the SSMI was improved to further fit in the requirements. The questionnaire included students' demographic data, socio-economic status and close-ended questions in a five Likert type scale. The sample consisted of N = 286, where 113 (39.5%) were female and 173 (60.5%) were male undergraduate first year students of PSG Institute of Technology and Applied Research (PSG iTech). The data was analyzed using, Pearson r and ANOVA to identify the levels of student satisfaction. It was found that the subscales namely college environment, classroom infrastructure, teaching learning process, student-teacher relationship had a positive effect on achieving students' satisfaction. The results of the study also indicate that the students' satisfaction had a significant impact on their academic excellence. Further, this research will also sensitize curriculum developers, teacher trainers, administrators, and especially the teachers about the importance of best practices to be adopted for creating a conducive environment for student satisfaction. The work has been concluded with suggestions and future developments in achieving high academic performance with satisfied students.*

Keywords : Academic Excellence, best practices, college environment, PSG iTech, student satisfaction.

I. INTRODUCTION

Student's life is a blend of interrelated academic and social experiences.

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The academic excellence of an educational institution is directly proportional to the satisfaction of the students. Any institution that strives hard to achieve academic excellence should focus on setting high standards, with "Student Satisfaction" as the nucleus of all other objectives. Student Satisfaction continues to be a challenge for many top class universities as it requires a rigorous and continuous supporting system to keep upgrading its standards. PSG Institute of Technology and Applied Research, is an engineering institution, which was established in the year 2014, with a vision to promote knowledge and impart technical and life skills in the mainstream of technical education. With five engineering programmes, namely, Civil Engineering, Computer Science and Engineering, Electrical and Electronics Engineering, Electronics and Communication Engineering and Mechanical Engineering, right from its inception, it has continued to produce quality results in the Anna University Examinations, Tamilnadu, topping No. 1 in the ranking table. In less than five years, PSG iTech has progressed in leaps and bounds, amongst other institutions in Tamilnadu and has set high standards for achieving academic excellence in engineering education. This empirical study is an attempt to introspect some of the best practices being carried out at PSG iTech. In alignment with the vision and mission statements of the institution that states, "To achieve excellence in education and research and nurture engineers with ethics, who will face global challenges to serve industry and society", the key feature of its approach has been achieving highest student satisfaction by proving, the newest and the most effective educational methods and enhanced facilities. Educational institutions hold the moral responsibility of enriching the career of students; thereby to fulfil their role of developing nation's economy. By improving student success and retention, it is crucial to determine the factors that contribute to overall student satisfaction. This research is a self-exploration, to identify the success parameters that would have had a significant impact on achieving high excellence in academics for the last four years. And it has made an attempt to identify various parameters that contribute towards the success of an educational institution. Moreover, it would also benefit the administrators, curriculum developers, teachers and stake holders to identify some of the key aspects in achieving academic excellence. In order to measure the factors that contributed towards the overall academic excellence, an indigenous method of Student Satisfaction Measuring Instrument (SSMI) was developed.



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The objective was to measure and explore the key factors contributing to overall student satisfaction. A questionnaire was designed to provide a clear picture of overall student satisfaction and to assess the correlation of students' satisfaction with the three dimensions and namely:

- Academic (teaching learning process and knowledge acquisition and skills)
- Social (a sense of belonging and interaction with key college members)
- Environmental (sense of connectedness and utilization of campus resources)

One of the major strategies adopted by this institution was the intake of highly meritorious students passing out from higher secondary schools. Since the inception of the institution every year, students are admitted to first year after a thorough screening process.

A diagnostic test is conducted for all the first year students to check their entry level behaviour. The diagnostic test include questions related to general aptitude, English language skill, interest in extra curricular activities, learning styles etc., After their admission to the institution, activities such as a detailed student orientation programme is conducted to ensure their transition from school to college is successful.

II. REVIEW OF LITERATURE AND THEORETICAL FRAMEWORK

Satisfaction is defined as 'a person's feeling of pleasure that results from comparing a product's perceived performance (or outcome) to their expectation', Kotler et al. (2009, p.120), [1].

It means if the performance equals the expectations of the customers, high level of satisfaction will be achieved. In the perspective of educational education, satisfaction is the key to achieve academic excellence.

Elliott and Healy [2] defined student satisfaction as a "short-term attitude resulting from an evaluation of a student's educational experience" (p. 2) and stated that student satisfaction was achieved when their actual experiences or performances met or exceeded their initial expectations.

More recent efforts have examined academic achievement, retention, and student satisfaction independently as measures of academic success (Hoffman & Lowitzki, 2005) [3]. This enables the evaluation of not only the knowledge of students but also the effectiveness of teaching processes and perhaps, provides an Instrument of student satisfaction (Martirosyan, Saxon & Wanjohi, 2014) [4].

Reid (2008) [5] has identified few basic features that employers normally look for in university graduates. These include knowledge, intelligence, and ability to work in organizations, interpersonal skills, and communication skills. The fulfillment of these skills and abilities is what parents expect when they decide to send their children for higher education in universities. Aldridge and Rowley [7] categorized student satisfaction evaluation into two categories, with the first being focused on classroom teaching

and learning evaluation and these being focused on the comprehensive student experience.

For the purpose of this study, student satisfaction was defined as student happiness or contentment with their holistic learning experience. Student satisfaction was assessed based on the extent of positive ratings given to the education quality at the institution, the overall college experience, whether students would choose to enroll again at the same college if they had the choice to start over, and whether the other courses they took had assisted them to adapt to college life; therefore, this definition combined a measure of both overall student satisfaction and the intention to persist.

This study used as student satisfaction evaluation model in which certain student satisfaction factors linked to the college learning outcomes for academic excellence were explored. In some studies, a strong relationship between students' satisfaction and academic performance was found (Dhaqane & Afrah, 2016) [7].

With higher academic achievement had higher satisfaction than groups with low academic achievement (Howard & Maxwell, 1980) [8].

Bryant and Bodfish [9] put forth the concept that student satisfaction was a major performance indicator for higher education institutions, with many universities employing rigorous quality assurance processes. Student interface with the college environment on the whole and with key individuals in particular, have been found to shape student views on higher education.

Elliot and Billups [10] both found that student interaction with faculty, staff and other students had a positive impact on student life to continue as well as on their overall satisfaction with the college experience. Nasser et al. [11] examined the correlation between student knowledge on infrastructure and programs and overall satisfaction and concluded that knowledge was a significant satisfaction factor and that "the higher the knowledge, the more satisfied the students are likely to be"(p.1). Hanssen and Solvoll [12] studied which college facilities had the greatest impact on student satisfaction and found that the quality of social areas, the auditorium, and libraries were the most important facilities related to student satisfaction.

Bryant and Bodfish [13] also found that institutions with better campus facilities were more likely to have higher student satisfaction. Similarly as cited in Elliot and Shin [14], Sevier [15] affirmed that "an institution's product is the sum of the student's academic, social, physical, and even spiritual experiences." These factors, which were based on Astin's interaction theory, have been found to be the most important elements in first-year college life.

Most universities have rigorous processes to achieve excellence or reach high-quality standards, with "Student Satisfaction" being the central focus of all of higher education aims for excellence. This study examined the influence of various academic, social, and environmental aspects on the overall satisfaction of students. Austin's Interaction theory [16] was taken into consideration to support the conceptual frame work of this research.

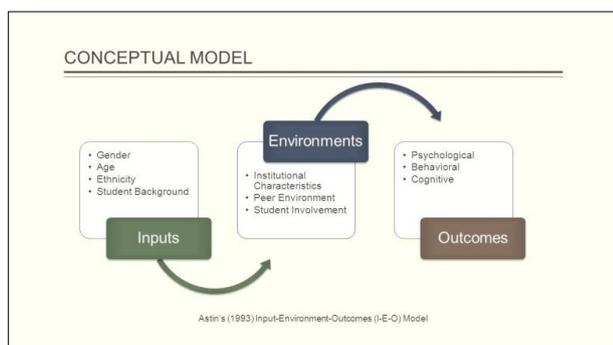


Figure.1. Astin's (1993) Input-Environment-Outcomes (IEO) Model

As mentioned earlier, factors influencing student satisfaction had been classified into three dimensions: academic (teaching learning process and knowledge acquisition and skills), social (interaction with peers, faculty and staff members), and environmental (sense of connectedness and utilization of campus resources). The research examined the impact of these factors on student satisfaction in achieving academic excellence; hence, this study is intended to investigate the influence of some of the best practices on student satisfaction.

III. RESEARCH METHODOLOGY

A. Research Questions

This study attempts to fill the gap and offer greater understanding of the elements based on the following research questions:

- (1) What factors contribute maximum to the overall student satisfaction?
- (2) What is the correlation between student satisfaction and academic excellence?
- (3) Whether the gender of the student plays a major role in achieving satisfaction?

B. Research Design and Context

In order to address these research questions, a novel 5–Likert scale questionnaire Students Satisfaction Measuring Instrument was designed and administered to 286 first-year students. The various questions in the questionnaire were related to measuring the overall satisfaction particularly with reference to academic, social and environmental contexts. The results were analyzed using ANOVA. Further, Pearson r Correlation was calculated between student satisfactions in relation to the above mentioned factors. It was observed from the result that student ratings were the highest for teaching-learning process. It was also observed that project-based learning was ranked second and other factors such as sense of connectedness towards the learning environment, student-friendliness of teachers and utilization of campus resources also had positive correlations.

C. Participants

The participants who took part in the study were first year engineering students (N=286). The overall population comprised of 173 male participants and 113 female participants. The SSMI was administered to all 286 students

to investigate the various parameters that affect student satisfaction.

D. Instruments

The SSMI comprised of 10 questions, related to academic, social and environmental lives of students in the campus. In order to achieve accurate results, anonymity was ensured among the participants. The first section questions were based on gathering information about general demographics: like age, gender, nationality, high school grades, mother tongue etc.,. The second section questions were related to their academic and social experiences in the campus and the third section were based on exploring the utilization of resources in the campus. The responses for sections 1–3 were recorded on a 5-item Likert scale ranging from strongly disagree to (5) strongly agree. Each scale was allocated a specific value to facilitate data analysis.

E. Data Collection

Five branches of engineering students took part in this survey. They are Civil Engineering, Computer Science and Engineering, Electrical and Electronics Engineering, Electronics and Communication Engineering and Mechanical Engineering. This survey was conducted using pen and paper method. Participants came forward on a voluntary basis to take part in the survey. The survey was administered in English. Some vernacular medium students found it difficult to answer the questions, care and attention was taken to ensure that the questions were thoroughly understood by all the participants before attempting to answer.

F. Data Analysis

Overall satisfaction of the students was taken as an dependent variable for the research. The five independent variables of the study were: academic (teaching learning process, project-based learning experience), social (student friendliness of teachers) and environment (sense of connectedness towards the campus, utilization of campus resources). The data obtained were analyzed using one way ANOVA and Pearson r correlation. At the outset, descriptive statistics was collected in order to get a big picture of the samples collected. After which, Pearson r correlation was adopted to find out the relationship between the independent and dependent variables. The above analyses were conducted to calculate the variance in student satisfaction against the five independent variables. Further, the overall student satisfaction data were used to identify students based on their level of satisfaction. It was observed that there was no significant difference based on the medium of language. Hence, this factor was not considered in the next phase of analysis.

IV. ANALYSIS AND DISCUSSION

The sample comprised of 173 male and 113 female participants. Descriptive statistics were conducted on the dependent variable (student satisfaction) and the five predictive independent variables.

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Table.1 and 2 represent the one way analysis of variance for Student Satisfaction measurement Instrument (SSMI). Table.3, represents the mean, standard deviation, minimum and maximum values for each of the predictive variables. In response to research question no.1, it is important to analyze the various factors that contribute maximum to the overall student satisfaction.

Table.1 One way ANOVA analysis

| Summary of Data | | | | | | |
|-----------------|------------|--------|--------|-------|--------|--------|
| | Treatments | | | | | Total |
| | 1 | 2 | 3 | 4 | 5 | |
| N | 5 | 5 | 5 | 5 | 5 | 25 |
| $\sum X$ | 20.68 | 20.59 | 20.36 | 20.17 | 19.64 | 101.44 |
| Mean | 4.136 | 4.118 | 4.072 | 4.034 | 3.928 | 4.058 |
| $\sum X^2$ | 85.65 | 84.99 | 83.01 | 81.48 | 77.31 | 412.46 |
| Std. Dev | 0.174 | 0.2262 | 0.1663 | 0.174 | 0.2044 | 0.1895 |

Table.2 Details of results

| Result Details | | | | |
|--------------------|--------|----|--------|----------|
| Source | SS | df | MS | F |
| Between treatments | 0.136 | 4 | 0.0342 | F=0.9437 |
| Within treatments | 0.7247 | 20 | 0.0362 | |
| Total | 0.8615 | 24 | | |

Table 3: General descriptive statistics - minimum, maximum, mean, and standard deviation

| Variable | Description | Minimum | Maximum | Mean | Standard deviation |
|----------|---|---------|---------|------|--------------------|
| Y | Overall student satisfaction | 3 | 5 | 3.68 | 0.62 |
| X1 | Teaching learning process | 1 | 5 | 4.1 | 0.96 |
| X2 | Project-based learning experience | 1 | 5 | 4.1 | 0.94 |
| X3 | Sense of connectedness towards the campus | 1 | 5 | 4 | 0.88 |
| X4 | Utilization of campus resources | 1 | 5 | 3.9 | 0.97 |
| X5 | Student friendliness of teachers | 1 | 5 | 3.7 | 1.04 |

Pearson's correlational analysis (Table.3) was conducted to explore the associations between overall student college satisfaction and the five factors namely, teaching learning process, project-based learning experience, sense of connectedness towards the campus, utilization of campus resources, and student friendliness of teachers. It was found that four of the five factors, namely, teaching learning process, project-based learning experience, sense of connectedness towards the campus, student friendliness of

teachers, were found to have high correlation with student satisfaction. The respective Pearson's correlation values are 0.98, 0.99, 0.88, 0.92, 0.92 and 0.98. The frequency of utilization of campus resources had weak correlation with overall student satisfaction. This could be due to the fact that not all students were interested to utilize the resources available in the campus.

Table.4 Overall Student Satisfaction (Branch- wise)

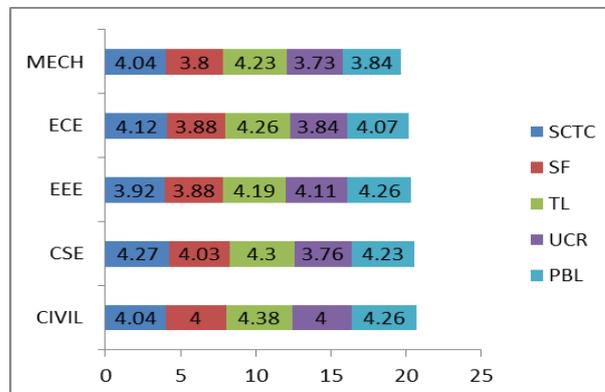


Table.4 represents the branch-wise data of overall student satisfaction. It was observed that the students from civil engineering have the highest satisfaction level compared to other branches. It was also observed that the satisfaction levels for teaching learning seemed to outperform other factors.

Table.5, shows the Pearson's correlation between overall student satisfaction and five independent variables. It was observed that, the highly correlated variable with that of student satisfaction was teaching learning process and project-based learning. However there seemed to be minor differences among the other factors.

Having found that teaching learning process was one of the highly correlated factors in achieving student satisfaction, it is important to throw some light on these factors to find out how significant they are in attaining academic excellence.

• Activity-based modules

Indeed, the teaching learning process at PSG iTech is streamlined in such a way that the faculty in the institution, practice active learning techniques for making the students understands engineering concepts better. All departments in the campus are in built with a peer-learning hall to facilitate activity-based modules in teaching. Students seem to respond in a positive way when classes are conducted in an environment that motivates student-participation and discussion.

Table 5: Pearson’s correlation between overall student satisfaction and independent variables

| Description | Overall student satisfaction | Teaching learning process | Project-based learning experience | Sense of connectedness | Utilization of campus resources | Student friendliness of teachers |
|---|------------------------------|---------------------------|-----------------------------------|------------------------|---------------------------------|----------------------------------|
| Overall student satisfaction | 1 | 0.98 | 0.99 | 0.92 | 0.92 | 0.98 |
| Teaching learning process | 0.98 | 1 | 0.9 | 0.85 | 0.86 | 0.92 |
| Project-based learning experience | 0.99 | 0.9 | 1 | 0.81 | 0.93 | 0.96 |
| sense of connectedness towards the campus | 0.92 | 0.85 | 0.81 | 1 | 0.77 | 0.78 |
| utilization of campus resources | 0.98 | 0.92 | 0.96 | 0.61 | 0.96 | 1 |
| Student friendliness of teachers | 0.92 | 0.86 | 0.86 | 0.77 | 1 | 0.96 |

• **Micro Teaching**

In order to ensure that quality teaching is imparted to students, at the start of every academic year all faculty, undergo a thorough micro-teaching module to ensure that the teaching learning process takes place in an efficient and an effective manner. This is one of the main reasons why teaching learning has achieved highest satisfaction level by students.

• **Student Feedback system**

Feedback is the most important criterion to ensure whether the process of teaching and learning is taking place in a satisfied manner. Students are encouraged to give feedback about the conduct of the classes online. Along with this, an innovative **one-minute feedback system** has also been introduced. This type of feedback enables the teachers to collect feedback from the students in person, thereby incorporating immediate steps to make quality improvement.

• **Project –based learning:**

Project-based learning has achieved the second highest satisfaction level among the students. This is also considered to be one of the best practices of PSG iTech. Students learn technical concepts related to the practical applications parallel in the lab. Most of the theory classes are pitched in such a way that students also get practical exposure of the concepts learnt in the class.

• **Sense of connectedness:**

The overall student satisfaction against sense of connectedness among the students was found to be 0.92 .The sense of belongingness towards the environment was apparently found among the students as they actively participated in all the club activities. One such example is the tree plantation campaign. A huge stretch of tree plantation in the campus was done by the students. This stands testimony to the care and attention taken by them to nurture the environment.

• **Holistic Living**

A unique practice of conducting Holistic Living classes is an integral part of the curriculum. A meticulously planned syllabus, comprising of Life skills and values are taught by experiential learning by the Principal, and the Vice-Principal to all the first year students. The feedback of students about the holistic living classes, have proved to be a great success.

Other than the regular courses in the curriculum, Holistic Living classes provide opportunity for students to fine tune their Life principles and values towards overall growth and achievement. Further, it increases the sense of belongingness towards their environment.

• **Wellness Centre**

PSG iTech is in built of a Wellness Centre, a unique venture to take care of the mental well being of faculty and students in the campus. A place in the campus to address wellness needs, it holds the primary objective of counseling the students to overcome academic and personal challenges they face in their life.

• **Student friendliness of teachers**

The overall attainment of student friendliness against student satisfaction was 0.98. There seems to be a good rapport between the students and faculty members in the campus. The effectiveness of learner-friendly teaching is demonstrated by the faculty and staff members of PSG iTech. To promote interactive teaching and learner –centeredness, the relationship between the students and faculty members is essential in any educational institution. PSG iTech is a good example to this student-centric attitude.

• **Utilization of campus resources**

All the factors related to achieving student satisfaction display a high level of correlation except, utilization of campus resources by students. Though much of the college resources are utilized by students, not all students take an initiative to make use of the resources available.

V. CONCLUSION

Overall results reveal that students are satisfied with Teaching methodology, students approach, campus resources, project-based learning and sense of belongingness and facilitation for extra-circular activities. On the other hand, no significant correlation was found between student satisfaction and the utilization of resources in the campus. This could be due to various factors including lack of motivation and rigor to take initiatives on the part of students. Based on above stated facts,

it can be concluded that majority of the students studying in PSG iTech achieve a high level of satisfaction based on the above said parameters.

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Though academic excellence as a factor is not directly correlated with student satisfaction results, it is understood that, since the level of academic achievement of the students from higher secondary school level is extremely good, they tend to perform well in the college also. This research should be considered as a first step to know the level of satisfaction of students at PSG iTech. The results of this study can be generalized, if the scope of research extends to comparison with other universities & disciplines. Similarly, a more systematic sampling could also add to the validity of findings. Moreover, effect of satisfaction on the students' personality, academic performance & outcome, intellectual skills, capabilities etc. are among the thrust areas for future investigation.



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