



**BAKI ALİ NEFT MƏKTƏBİ
BAKU HIGHER OIL SCHOOL**

Quality Assurance Department



SUSTAINABILITY LITERACY REPORT

BAKU – 2024

1. Introduction

As a dynamic and engaging university, BHOS pays attention to sustainability very seriously and as a result, Sustainability Literacy report was conducted during 2022-2023 academic year to measure the level of sustainability knowledge among students at Baku Higher Oil School, focusing on various departments. Understanding students' literacy can help shape future educational initiatives and promote a culture of sustainability on campus.

2. Methodology

The questions of the survey were developed by the experts at Baku Higher Oil School, who actively contributed their expertise to ensure that the questions were appropriately aligned with the principles of sustainability literacy. Their involvement was integral to crafting relevant and insightful questions for this survey. The survey, consisting of 2 sections with **22 questions**, engaged students across all bachelor's degree departments, such as Chemical Engineering, Business Administration, Process Automation, and Petroleum Department, Information Security, and Computer Engineering. 22 Questions consisting of 5 situational questions were distributed via link to all students across the 6 departments, resulting in a total of **663 responses**. Data was analyzed using descriptive statistics to identify trends and averages and percentages.

Distribution of results according to departments are as follows:

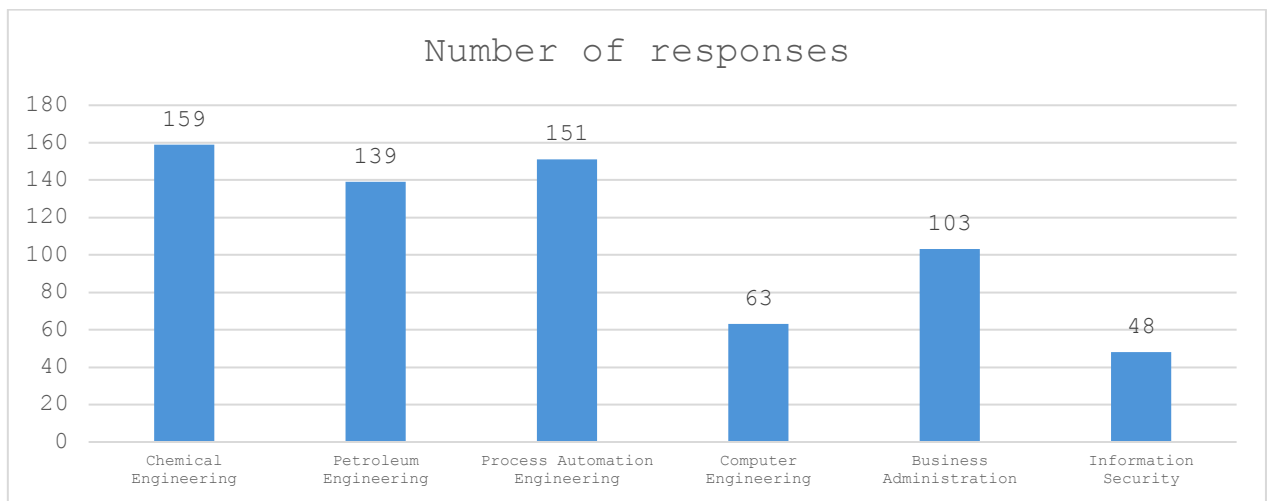


Diagram 1: Departmental Breakdown

Study year	Average number of questions answered out of 22	Results (%)
2nd year	12	55
3rd year	15	68
4th year	18	82
5th year	20	91

Table 1: Percentage results among all department students for each study year

The table above presents data on the sustainability literacy of students from various departments at Baku Higher Oil School, specifically from the 2nd, 3rd, 4th, and 5th year courses. The data shows the average points achieved by students out of 22 questions and the corresponding percentage results for each course from all departments.

The students in their 2nd year demonstrated moderate sustainability literacy, with an average score of 12 points, equivalent to 55%. These students are still in the early stages of their academic journey, where foundational knowledge in their major and the general university curriculum is emphasized. It is expected that their understanding of sustainability concepts is limited due to minimal exposure to in-depth topics on environmental and social responsibility. Additionally, the curriculum during this stage might focus more on introductory subjects rather than specialized sustainability-related content, leading to a relatively lower score.

The 3rd-year students scored an average of 15 points, which represents 68% of the total possible points. This marked improvement compared to the 2nd year is likely due to increased exposure to specialized coursework and practical applications related to sustainability within their fields. By the 3rd year, students typically engage in intermediate-level subjects that incorporate sustainability principles within their core engineering or business courses. The shift from basic theoretical knowledge to practical examples, case studies, and sustainability challenges contributes to a deeper understanding and higher scores in this assessment.

The sustainability literacy of 4th-year students is significantly higher, with an average score of 18 points or 82%. At this stage, students are exposed to advanced coursework where sustainability topics are likely integrated into technical subjects and research projects. Their ability to critically analyze environmental and social impacts of their fields and propose sustainable solutions becomes more developed. Additionally, many students begin to apply their theoretical knowledge in internships or hands-on projects, where real-world sustainability challenges are encountered, further reinforcing their literacy in this area.

The 5th-year students achieved the highest average score, 20 points or 91%, indicating a near-complete understanding of sustainability concepts. By this final year, students are fully immersed in their fields of study, with sustainability playing a crucial role in their capstone projects, advanced coursework, and, in some cases, collaboration with industry professionals. The strong emphasis on sustainability topics in courses like Health, Safety, and Environment (HSE) and specific courses on sustainable development further enhance their knowledge. At this stage, students are better equipped to integrate sustainability into their future professional practices, reflecting their readiness to contribute to global sustainability efforts.

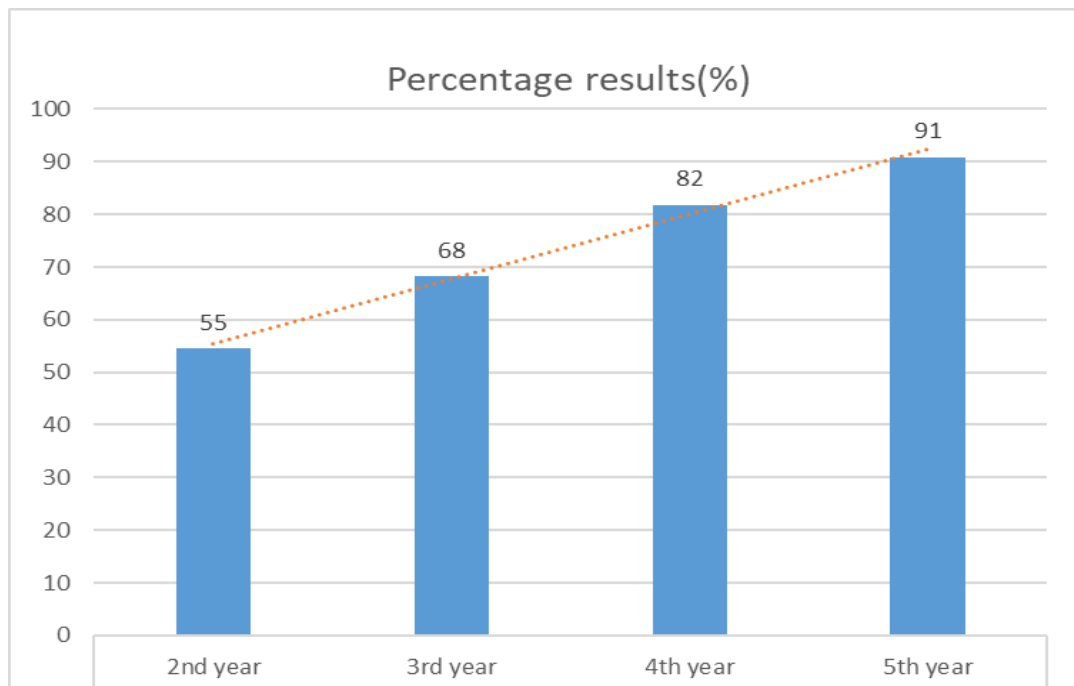


Diagram 2 Percentage results among courses

Departments	Average number of questions answered out of 22	Results(%)
Chemical Engineering	18	82
Petroleum Engineering	18	82
Process Automation	16	73
Business Administration	17	77
Information Security	13	59
Computer Engineering	15	68

Table 2: Percentage results among students from each department

The table illustrates above the average points and percentage results for sustainability literacy across six departments at Baku Higher Oil School. The data highlights slight variations in performance among different departments.

Students in the Chemical Engineering department demonstrated strong sustainability literacy, with an average score of 18 points, equivalent to 82%. This high score can be attributed to the nature of the curriculum, which includes a significant focus on sustainability topics, particularly in areas like waste management, renewable energy, and environmental protection. Additionally, in the final year, students take specialized courses in Health, Safety, and Environment (HSE), which further enhances their understanding of sustainability practices.

Similarly, Chemical Engineering, the Petroleum Engineering department also scored highly, with students achieving an average of 18 points or 82%. This can be explained by the department's emphasis on responsible resource management, environmental impact assessments, and sustainable extraction techniques. The focus on minimizing environmental damage in the oil and gas industry, combined with specialized training in sustainability in the later years, ensures that students have a solid understanding of sustainability challenges in their field.

Students in the Process Automation Engineering department scored slightly lower, with an average of 16 points (73%). While the department covers topics such as energy efficiency and automation technologies that contribute to sustainability, the focus may be more technical and less oriented towards direct sustainability issues compared to departments like Chemical and Petroleum Engineering. However, students in this field still demonstrate a good understanding of the importance of optimizing processes to reduce environmental impact.

The Business Administration department achieved an average score of 17 points (77%). Sustainability is becoming increasingly important in business education, especially in areas like corporate social responsibility (CSR), ethical business practices, and sustainable supply chains. These topics are covered in the department, providing students with a good understanding of sustainability from a business perspective, which is reflected in their strong performance.

Information Security students scored lower, with an average of 13 points (59%). This lower score may be due to the more technical and specialized nature of their field, where sustainability issues may not be as prominently covered in the core curriculum. However, the increasing importance of sustainability in the context of data centers, energy-efficient IT systems, and cyber policies could be explored further to improve students' understanding of sustainability within this domain.

Computer Engineering students scored moderately, with an average of 15 points (68%). While sustainability may not be a core focus in many of their technical courses, areas like green computing, energy-efficient software, and sustainable hardware development are increasingly important. As these topics become more integrated into the curriculum, students' awareness and literacy in sustainability could improve.

Analysis of Variations Among Departments

The variation in sustainability literacy results among departments can be attributed to several factors:

1. **Curriculum Focus:** Departments like Chemical and Petroleum Engineering naturally incorporate sustainability topics more extensively, as these industries have a direct impact on the environment. This leads to higher literacy in these areas compared to more technical fields like Information Security and Computer Engineering, where sustainability is less emphasized.
2. **Practical Exposure:** Students in departments with higher scores often have more opportunities for hands-on learning experiences, such as internships or projects related to sustainability. This practical exposure helps reinforce theoretical knowledge and improve understanding.
3. **Relevance of Sustainability:** In fields like Business Administration, sustainability is becoming increasingly important due to global trends in ethical business practices and corporate responsibility. In contrast, technical fields like Information Security may not prioritize sustainability to the same extent, resulting in lower scores.

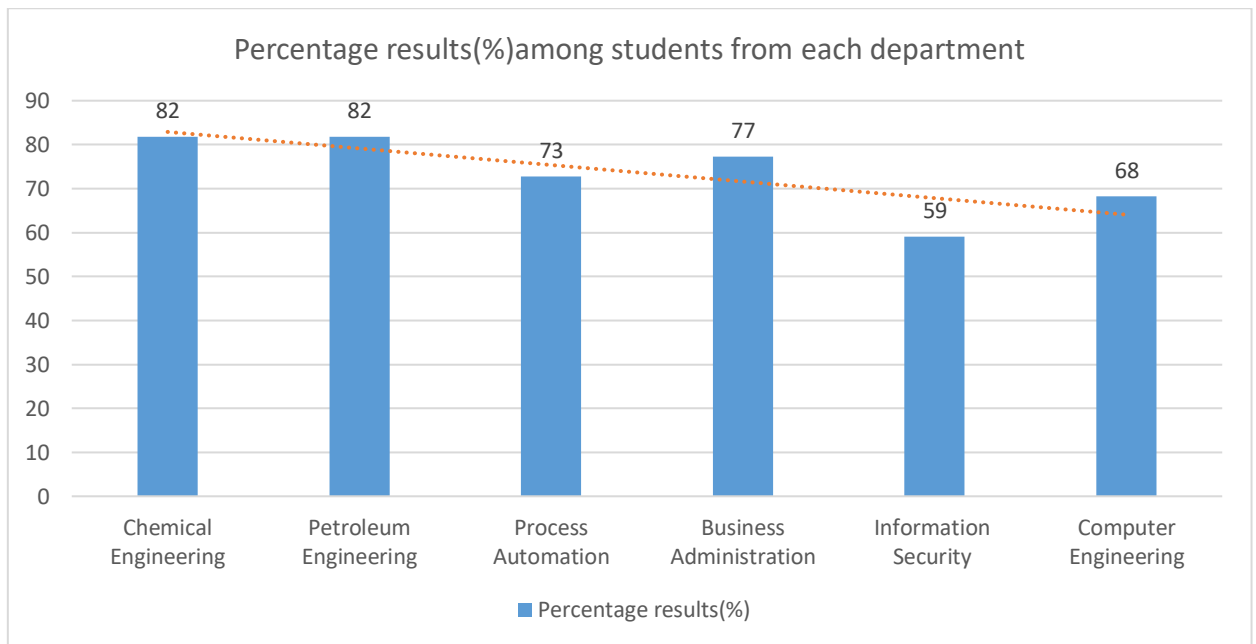


Diagram 3: Percentage results among students from each department

3.Conclusion

The sustainability literacy survey shows a clear improvement in students' knowledge as they advance through their courses at Baku Higher Oil School. As reflected in **Table 1**, 2nd-year students scored 12 points (55%), while 5th-year students scored 20 points (91%). This progression is logical, as students receive more specialized and practical education in later years, contributing to their enhanced sustainability awareness.

Table 2 shows that departments like Chemical Engineering and Petroleum Engineering scored highest (82%) due to their focus on sustainability topics such as health, safety, and environmental protection. In contrast, departments like Information Security (59%) and Computer Engineering (68%) showed lower results, likely due to less emphasis on sustainability in their curricula.

In conclusion, while sustainability literacy strengthens as students progress, there is room to integrate more sustainability-focused education across all departments to ensure comprehensive awareness.

4.Future Perspectives

The data from the survey reveals significant opportunities for growth in sustainability literacy at Baku Higher Oil School. Moving forward, there are several key areas where progress can be made:

4.1 Curriculum Enhancement

While higher-year students and certain departments (like Chemical and Petroleum Engineering) show strong sustainability literacy, other departments (such as Information Security and Computer Engineering) can benefit from integrating more sustainability-related topics into their curricula. Expanding coursework to include the environmental impact of technology and ethical considerations can help bridge this gap.

4.2 Interdisciplinary Approaches

Encouraging interdisciplinary learning and collaboration between departments will promote a holistic understanding of sustainability. For instance, linking Business Administration students with engineering fields on projects addressing corporate social responsibility can enhance practical knowledge across sectors.

4.3 Ongoing Professional Development for Faculty

To continue improving sustainability literacy, regular training and development for faculty members across all departments can ensure that educators are well-versed in the latest sustainability practices, allowing them to incorporate these into their teaching.

4.4 Practical Training and Awareness Campaigns

Introducing more hands-on sustainability projects, workshops, and seminars across all years and departments will allow students to apply theoretical knowledge in real-world contexts. Organizing sustainability awareness campaigns and student-led initiatives can also increase overall engagement.

In summary, the data reveals positive progress in sustainability literacy, but with targeted efforts, especially in the lower-scoring departments and years, Baku Higher Oil School can ensure that all graduates are fully equipped to contribute to sustainable practices in their future careers.