Course Feedback on the Delivery of Professional Courses: Basis for Course Delivery Improvement

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Abstract *In the realm of contemporary higher education, the integration of a structured feedback mechanism is recognized as a pivotal element in the process of educational assessment and improvement. This paper explores the significant role of course evaluations, conducted by students, in the overarching institutional assessment framework. It elucidates how these evaluations serve not only as a tool for gauging course effectiveness but also as a catalyst for enhancing teaching methodologies, course content, and overall student learning experiences. The methodology hinges on the premise that constructive feedback, especially from first-year university students, is crucial for facilitating their transition to higher education environments, potentially improving student retention rates. The study highlights how the active involvement of students in the evaluation process promotes the refinement of teaching practices and course delivery. Furthermore, it discusses the implications of feedback on the development of proactive strategies aimed at the continuous improvement of educational offerings. Through a comprehensive analysis, this paper underscores the importance of implementing feedback mechanisms effectively to foster an adaptive, responsive, and student-centered learning environment in higher education institutions. **Keywords** – Course Feedback, Improvement, Computer Science*

INTRODUCTION

In the contemporary higher education system, the process of a feedback mechanism is often seen as a significant accomplishment due to the significant data being generated. In application, students in most universities are asked to complete course evaluations as part of the institution-wide assessment process. It is thus, a methodology of evaluating courses and their delivery in which actions taken are integral, one in which the implementation of desired changes is incorporated into the process of evaluating. Thus for teachers, the conduct of the evaluation process aims to encourage them to better their practice, improve learning for students and manage the content of their respective courses. By taking steps to better their practice, it is then safe to assume that this leads to the development of the structure, content, and operation of the course. Once implemented effectively, the feedback of the students, especially during their initial year in the university, can help in the transition to higher education and may lead to better student retention. By actively engaging learners in the said evaluation procedure, this will lead to the enhancement of learning and course delivery performance.

The Course Feedback can also reflect necessary insights originating from several aspects of the procedure, hence a proactive strategy can be formulated to address and develop teaching and improvement of courses.

The resulting plan of action that is to be implemented will then enhance teaching delivery, better student outcomes and thus a sense of professional fulfillment for the instructor. Course feedback can help educational institutions to identify which courses are popular and effective, and which ones need to be revised or discontinued. It can also help to identify new areas of study that students are interested in, and to develop new programs to meet those needs. Course feedback assessment from students is a valuable tool for instructors and institutions to enhance teaching quality and learning. It can provide insights into student satisfaction with the course, their understanding of the material, and their suggestions for improvement. There is a handful of basis on the significance in measuring the effectiveness of assessment feedback. First, it helps to ensure that feedback is actually having the desired impact on student learning. Second, it can help to identify areas

where feedback can be improved. Third, it can help to justify the investment of time and resources in providing feedback. Measuring the effectiveness of assessment feedback is an important way to improve the quality of teaching and learning. By carefully considering the purpose of feedback and using appropriate measurement methods, instructors and institutions can gain valuable insights into how to improve the quality of feedback and, in turn, enhance student learning. As such, course evaluations are ways to generate feedback which the professors and university can use to evaluate the quality of instruction, in which the following criteria are focused on: (a) Relevance of Course; (b) Course Organization and Intended Learning Outcomes; (c)Teachers and Teaching - Learning Activities (TLAs); (d) Assessment; (e)Learning Environment, and (f) Counselling.

Thus, course feedback surveys are accomplished at the end of each semester. Professors allocate time during their class for the students to completely fill out the survey forms, they are disseminated to all students enrolled on that particular class. Survey forms are distributed to each student and once completed, the survey forms are collected, returned and sorted to the department.

OBJECTIVES OF THE STUDY

This study aimed to determine how the instructors fare in the delivery of courses as to Relevance of Course, Course Organization and ILOs, Teachers and Teaching-Learning Activities, Assessment, Learning Environment, and Counselling. Determine which among criteria the instructors need improvement on and determine what course delivery improvement program can be proposed based on the results.

MATERIALS AND METHODS
Research Design

The study utilized a descriptive approach as it tries to examine and understand a current phenomenon. As such it is used to describe systematically and accurately the facts and characteristics of a given population or area of interest which in this case are the blended learning approach. It is also used to portray the characteristics of persons, situations, or groups and the frequency with which certain phenomenon occurs which in accordance to the study are the student experiences. Also, it is used to discover associations or relationships between or among selected variables, thus answer questions based on the ongoing events of the present.

Research Respondents

The study conducted in one Philippines Higher Education Institution. Data will be gathered from "Course Feedback Survey Forms" answered by students who are enrolled in BS Computer Science program during the Academic Year 2020-2021.

Materials and Data

Data will be gathered from "Course Feedback Survey Forms" answered by students who are enrolled in BS Computer Science program during the Academic Year 2020-2021. The research instrument was used is the Course Feedback Survey Forms from Outcomes Based Education Center. Composed of 6 criteria, Relevance of Course, Course organization and ILOs, Teachers and TLA, Assessment, Learning environment and Counselling.

Data Gathering Procedure

To facilitate data-gathering, the "Course Feedback Survey Forms" was accomplished by the Bachelor of Science in Computer Science students of the College of Computer Studies of SY 2020-2021. Survey forms answered from 1st Semesters and 2nd Semesters , once done, their responses were immediately sorted, tabulated and interpreted. The respondents were also informed that all their responses are kept confidential.

Data Analysis

In academic institutions, it is normal practice that at the end of each term students are required to complete a questionnaire that is designed to gather students' perceptions of the instructor and their learning experience in the course. Students' feedback includes numerical answers to Likert scale questions and textual comments to open-ended questions.

To interpret the data effectively, the researcher will employ the following statistical treatment. Percentage and Weighted Mean. Percentage was also used to determine part or portion in relation to its whole. This would reflect the population or census as to how many would yield to the questions being asked. Weighted average is an average in which each observation in the data set is assigned or multiplied by a weight before summing to a single average value. In this process, each quantity to be averaged is assigned a weight that determines the relative importance of each quantity. Weightings are the equivalent of having that many like items with the same value involved in the average. Professional courses will be ranked based on Relevance, Course Organization and Intended Learning Outcomes,

Teachers and Teaching-Learning Activities, Assessment, Learning Environment and Counselling.

Ethical Consideration

The author sees no possible violation of norms and ethics in relation to determining preference of learning modalities. However, The author will exercise due care in handling confidential information especially in obtaining the information of the respondents in order to avoid violation of privacy.

RESULTS AND DISCUSSION

The following chart shows the summary of Course Feedback Survey of First Semester and Second Semester of 2020-2021.

Generally, as per students' feedback, they are satisfied with the courses taught as reflected by a composite mean of 3.63 on all 8 courses. This shows that the faculty members were able to deliver the courses up to the students' expectations, hence satisfaction. According to Floden [1], The study suggests student feedback can significantly influence instructors and improve their teaching methods and become standard practice for university instructors to receive feedback from students.
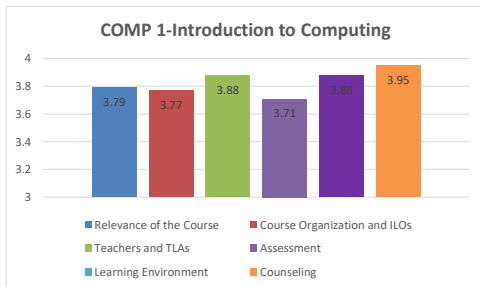

Figure 1. COMP 1- Introduction to Computing

Specifically, for COMP 1, the counseling of the faculty stood out on top with a weighted mean of 3.95. This shows that time is allotted for students' consultation regardless of the nature, being academic or non-academic matter. This then highlights the concern of the faculty for the students and in return, the students seem to be appreciative of this trait as all CS 2, COMP 4, and CS 25 share the same sentiments. Thus, despite the differences in the year level and the faculty teaching, the majority of the students from 6 courses values this factor. Going back to COMP 1, this was followed by Learning Environment, and, Teachers and TLAs, both with a weighted mean of 3.88. This goes to show that the teachers, their activities, and the environment are all conducive to learning. This show that students are more likely to give fair evaluations

when they perceive the grading process to be fair and unbiased, by minimizing the influence of grades, evaluations can provide a more accurate picture of teacher effectiveness, leading to targeted improvements in teaching methods [2].
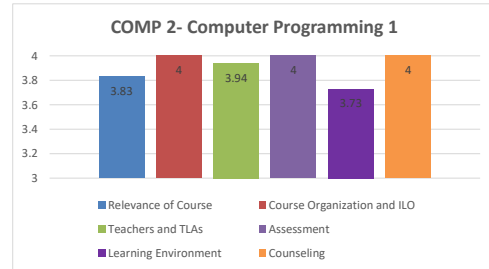

Figure 2. COMP 2-Computer Programming 1

For COMP 2, Course Organization and ILO, Assessment, and Counselling shared the same spot on top. This shows that courses were implemented according to the approved curriculum and for the Assessments, it covered all the main topics taught in the course, similarly, this shows that time is allotted for students' consultation regardless of the nature, being academic or non-academic matter. According to Azzam [3], researchers conducted a randomized controlled trial (RCT) where students volunteered to participate. Interestingly, the RCT showed no clear benefit from learning communities. However, when they analyzed the data differently they found a positive and significant effect of learning communities on retention. investigated whether learning communities boost freshman year retention in college.
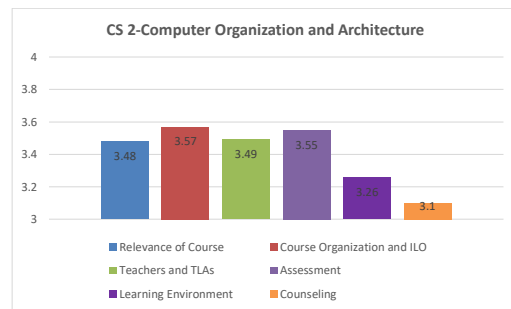

Figure 3. CS 2-Computer Organization and Architecture

As for CS 2, Course Organization and ILO is the most valued factors by the students. This highlights that the course was implemented according to the approved curriculum and the ILOs of the course were clear and relevant. This is followed by just a thin margin of difference with a weighted mean of 3.55, Assessment.

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The students seem to give great weight to the manner of which and when they are assessed. Thus, this shows confidence among students in the credibility of teachers to give a fair score and/or judgment. Next are Teachers and TLAs, in which teachers provided adequate opportunities for teamwork and independent learning to students.
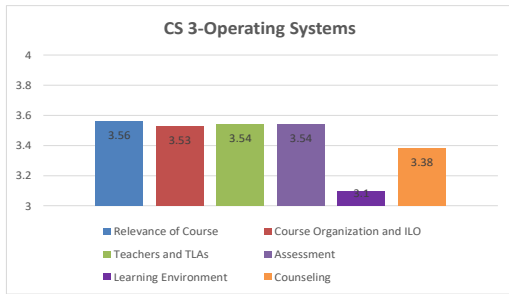

Figure 4. CS 3-Operating Systems

CS 3, shows that the Relevance of the Course help the student develop their related practical skills, teamwork, and leadership skills which will help them communicate to other students or peers. . It also shows that the teaching -Learning Activities and Assessment shared the same spot which means that distribution of assessment over a semester was appropriate and teachers provided timely feedback on student performance.
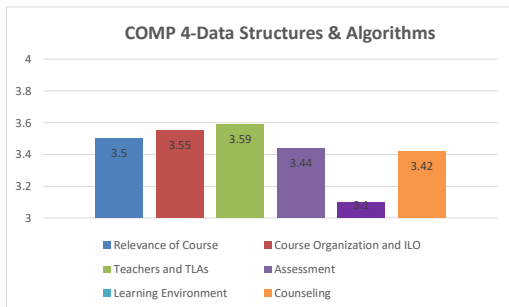

Figure 5. COMP 4-Data Structures & Algorithms

For COMP 4, Teachers and TLAs with a weighted mean of 3.59 stood on top which shows that team teaching is done accordingly and teachers provided adequate opportunities for teamwork and independent learning to students. Followed by Course organization and ILOs with a weighted mean of 3.55, that the students agree that the course was clear, relevant, and had no overlapping of content within the course.
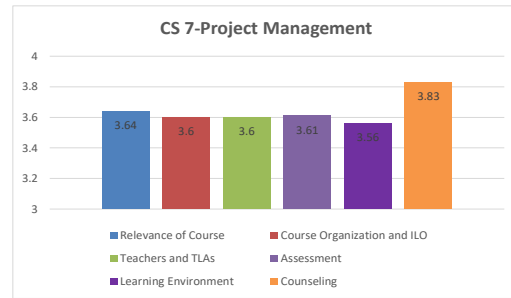

Figure 6. CS 7-Project Management

As for CS 7, Counselling stood out on top with a weighted mean of 3.83. Again, this shows the commitment of the faculty by allotting time for consultation to address students' concerns, the Relevance of the Course with a weighted mean of 3.64 signifies that course content is indeed necessary, is being implemented as per curriculum, and, identify and achieves the learning objectives meant for students. Traditionally, instructors read through student comments to find improvement suggestions, which can be tedious. This method saves instructors time and allows them to focus on analyzing the suggestions for course improvement [4].
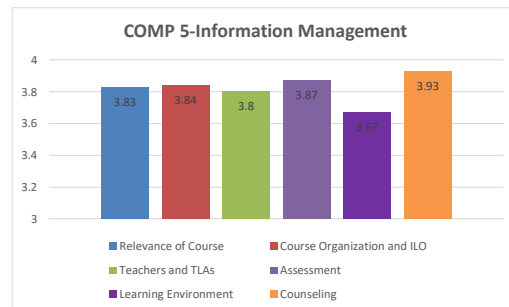

Figure 7. COMP 5-Information Management

As for COMP 5, the scenario is very similar to CS 7. As mentioned earlier, Counselling stood out on top with a weighted mean of 3.93. Again, this shows the commitment of the faculty by allotting time for consultation to address students' concerns. This is followed by just a thin margin of difference with a weighted mean of 3.87, Assessment. The students seem to give great weight to the manner of how and when they are assessed. Thus, this shows confidence among students in the credibility of teachers to give a fair score and/or judgment. Kaizen offers a framework for university instructors to continuously refine their courses and ensure they are delivering the best possible learning

experience for students [5] similar with the COMP 5 course, which shows that students valued the time given by their professors.
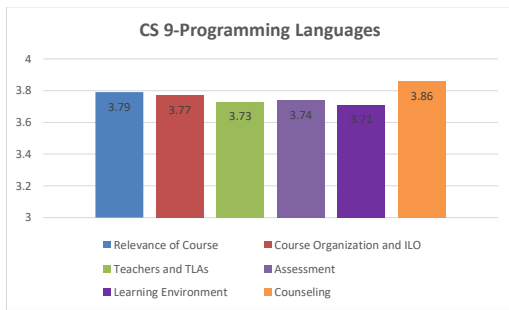

Figure 8. CS 9-Programming Languages

Specifically, for CS 9, the counseling of the faculty stood out on top with a weighted mean of 3.86. This shows that time is allotted for students' consultation regardless of the nature, being academic or non-academic matter. Followed by, Relevance of Course with a weighted mean of 3.79.

For 2nd Semester, as per students' feedback, they are satisfied with the courses taught as reflected by a composite mean of 3.70 on all 10 courses. This shows that the faculty members were able to deliver the courses up to the students' expectations, hence satisfaction. This allows students to elaborate on their experiences, strengths and weaknesses of the course, and offer suggestions for improvement [6].

Figure 9. CS 1-Digital Design

With a composite mean of 3.71, for CS 1, This data shows that the Relevance of the Course helps provide an overview of the principles underlying number systems, logic gates, fixed-point representation, Boolean functions that help the students develop related practical skills, the ability of the student to apply knowledge of computing and mathematics appropriate to the discipline. This was followed by Course organization and ILOs with a weighted mean of 3.74, which shows

the course was delivered clearly and relevant, and no overlapping of contents within the courses. Assessment and Counselling were shared on the same spot with a weighted mean of 3.71 which the number of assessments was appropriate and adequate, and the teachers provided timely feedback on student performance. Where in Learning environment got the lowest score among the criteria because of inadequate laboratory facilities due to pandemic and classes being held online.

With a composite mean of 3.76, similarly to CS 1, the Relevance of the course also stood on top on COMP 3 which means that the course helped the students develop a positive attitude on the program which will develop related practical skills in their future professions, this data shows that they helped them developed relevant subject knowledge, that emphasizes to train students to design, implement, test, and debug programs intended to solve computing problems using basic data structures and standard libraries. Followed by, Course organizations and ILOs, the student agrees that the course was implemented according to the approved curriculum as planned and delivered. This also shows that learning environment also got the lowest spot because of the unavailability of facilities because classes are done online but resources and electronic databases are still shared by teachers and available online.
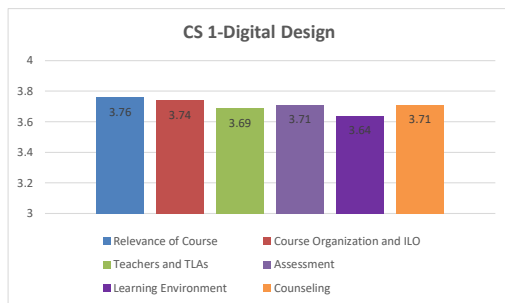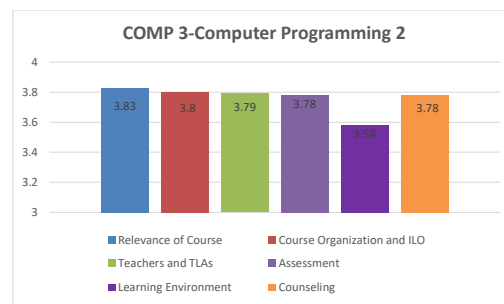

Figure 10. COMP 3-Computer Programming 2

For CS 4, Teachers and TLAs with a weighted mean of 3.80, this is indicative that teaching-learning activities such as practical, educational tours were useful and relevant, wherein students are provided with information about the characteristics of quality software being used by software engineers to evaluate existing software in the market. Followed by Relevant of Course and Assessment with a weighted mean of 3.75, which signifies course content is indeed necessary, is being implemented as per curriculum,

and, identifies and achieves the learning objectives meant for students. Learning and Environment also got the lowest mark because of unavailable laboratory and facilities and classes are done online.
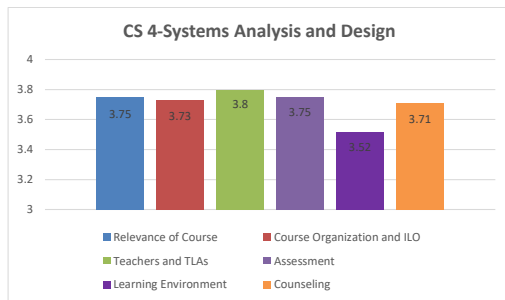

Figure 11. CS 4-Systems Analysis and Design

As for CS 5, Course Organizations and ILOs stood out on top with a weighted mean of 3.76. This shows that the course was implemented according to the approved curriculum, the courses were clear, relevant and no overlapping of contents within a course, students were introduced to principles and current technologies of multimedia systems. This is followed by Relevance of Course, which signifies course content is indeed necessary, developed team working skills, leadership and communication skills. Learning Environment got a weighted mean of 3.41, even though classes are held online software and application are available on Creative Cloud which can be accessed by enrolled students.
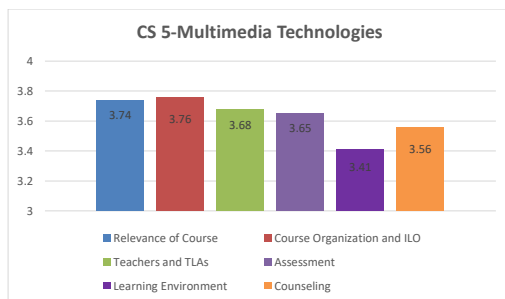

Figure 12. CS 5-Multimedia Technologies

With a composite mean of 3.69, this shows that Teachers and TLAs, with a weighted mean of 3.81, goes to show that the teachers, their activities, and the environment are all conducive to learning from the students because they are exposed to online exams, packet tracer activities and hands-on exercises that can be accessed through https://www.netacad.com/. Followed by the Relevance of the Course that signifies course content is indeed necessary, is being implemented as per curriculum, and, identify and achieves the learning objectives meant for students.
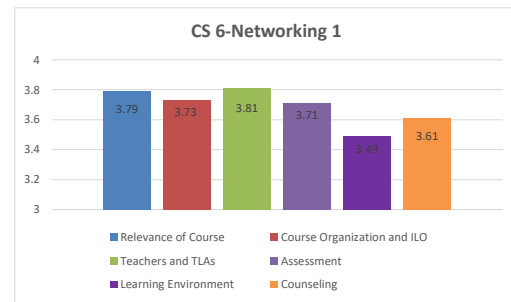

Figure 13. CS 6-Networking 1

With a weighted mean of 3.71, for CS 12, Counseling makes the top spot with a weighted mean of 3.80 similarly with Relevance of Course, and, Teaches and TLAs and Counselling. This reflects the approval of the students to the established system or protocol of the College beginning with the commitment of the faculty to address the need or concern of the student even online, this means that the manner and the activities the faculty employs in enticing a student to learn, and, the relevance of the courses being taught as a primordial part in cultivating a future computer/IT expert. Even though Learning Environment is spotted as the lowest among the criteria, still the teacher provides the students the basic theories of mathematics that can be used for the logical analysis and decision-making process, particularly in the field of computing.
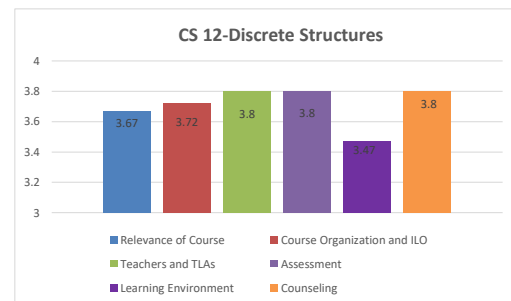

Figure 14. CS 12-Discrete Structures

For CS 13, Relevance of the course and Counselling both stood on top where time is allotted for students' consultation regardless of the nature, being academic or non-academic matter, and it also shows that the course has a large contribution on the student to develop their related practical skills, teamwork, and leadership skills which will help them communicate with other students or peers. This shows that Students can present their output and submit relevant documentation after each phase despite the consultation being done online.
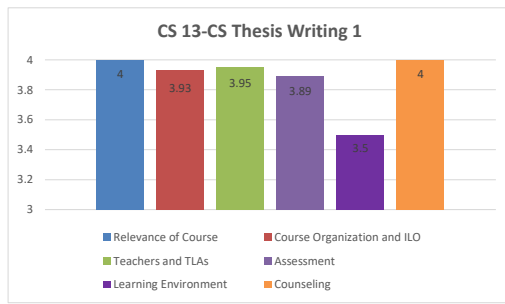
Figure 15. CS 13-CS Thesis Writing 1

With a composite mean of 3.56, this shows that Course organization and ILOs with a weighted mean of 3.70 shows that the teacher explains how to configure a switch for basic functionality and how to implement Virtual LANs, VTP, and Inter-VLAN routing in a converged network. The different implementations of Spanning Tree Protocol in a converged network are presented, the knowledge and skills necessary to implement a WLAN in a small-to-medium network were achieved.

This is indicative that the goal of the class for ILOs is being communicated from the beginning are clear and is deemed relevant to the holistic development of the student. This is followed by Teachers and TLAs, with a weighted mean of 3.68 reflecting the conducive culture for learning created by the faculty. Learning Environment again spotted on the least because of inadequate computer facilities.
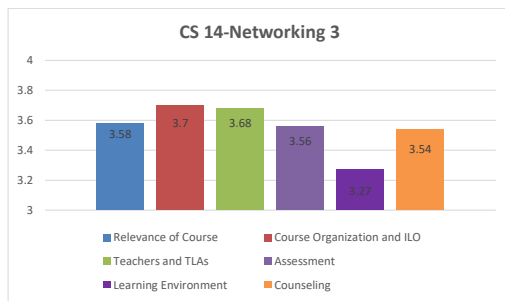

Figure 16. CS 14-Networking 3

For CS 15, Couse Organization and ILOs, Teachers and TLAs, Assessment and Counselling have a similar weighted mean of 3.80, which signifies course content is indeed necessary, is being implemented as per curriculum, and, identify and achieves the learning objectives meant for students. The students seem to give great weight to the manner of how and when they are assessed. Thus, this shows confidence among students in the credibility of teachers to give a fair score and/or judgment. The study of programming by focusing on software design, development, and verification - the skills beyond fluency in a particular language that are necessary for developing large, reliable programs are relevant.
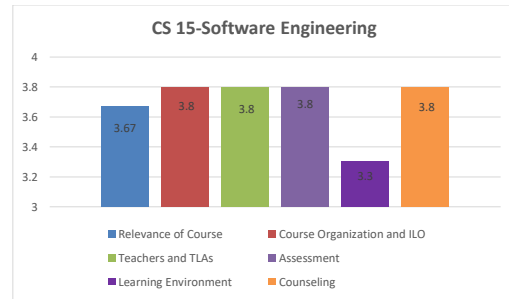

Figure 17. CS 15-Software Engineering

With a composite mean of 3.68, CS 16, similar to CS 15 shared the same criteria in which they stood out this shows the commitment of the faculty by allotting time for consultation to address students' concerns. This is similar to Teachers and TLAs, Course organization and ILOs and, Assessment with a weighted mean of 3.30 reflecting the conducive culture for learning created by the faculty. This shows that CS 16 need adequate laboratory and computer facilities, but still, online resources are available online. According to Boring et. al [7], students might base evaluations on workload, perceived difficulty, or grade expectations, rather than actual learning outcomes achieved through the instructor's methods.
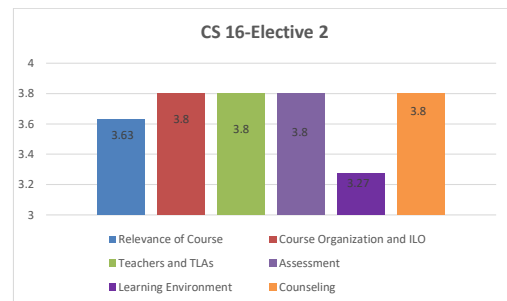

Figure 18. CS 16-Elective 2

CONCLUSION AND RECOMMENDATION

Most of the students are satisfied on how the course helped them develop their leadership, communication, practical, and working skills for both 1st and 2nd semesters. For the Course organization and ILOs, courses COMP 2, COMP3, CS 2 CS 15, and CS 16 lead among the courses for the 1st and 2nd Semester which means that ILO's were clear and relevant, and there were no overlapping of contents within the a course. According to Deshpande [8] he emphasized the importance of well-designed surveys to gather valuable

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student feedback for course improvement and focuses on the instructor's teaching methods, clarity, and effectiveness in facilitating learning.

For Teachers and TLAs, where teachers motivated the students to learn, and provided adequate opportunities for team work and independent learning for courses COMP 4, CS 4, CS 12, CS 15, and CS16. For the Assessment methods used by the teacher, it shows that assessment methods to be used were told at the beginning of the courses, number of assessments was appropriate and adequate and teachers provided timely feedback on student performance for most courses. For Learning Environment, spotted on the least for both 1st and 2nd Semester 2020-2021, which means inadequate laboratory and library facilities are unavailable due to online classes setup, which means the students have difficulty on the course because of inadequate laboratories and software needed. For Counselling, was rated one of the most valuable by the students, which means that teachers/advisers are available during consultation for academic and non-academics matter during online classes. Based on the criteria, Relevance of the course and Assessment are the least among the criteria, it means that the instructors must improve the course material in order to satisfy the needs of students and the industry standard. Also, additional course assignments and assessments that are significant to the course topic should be included, as well as real-world examples and case studies. Make sure that the course content is aligned with the needs of the students and the industry. For the course delivery improvement program, workshop on course design and alignment, teach instructors how to design and align their courses with the needs of the students and the industry. And to include real-world examples and case studies in the course. An additional workshop will teach instructors how to use a variety of assessment methods to measure student learning, how to make sure that the assessments are aligned with the course objectives, and how to provide timely and constructive feedback to students on their assessments.

Meaningful input from students is essential for improving courses. One of the most common indirect course assessment methods is the course evaluation survey. In addition to providing useful information for improving courses, course evaluations provide an opportunity for students to reflect and provide feedback on their own learning. Based from the data gathered, the students are satisfied with all the courses taught, as per recommendation is to review textbook selection that could be used for the specific course. Design ways to get

the students more involved in class – having students write quick reaction papers, pairing students and having them discuss a concept and then share with the class, assigning students to presentation teams, etc. And lastly, to reflect on how the course contributes to the students' big picture of learning, help the students connect with the value of that subject area. Approach to the course could help some students decide to take more courses in the field. For the other students, they will have a better understanding of the concepts as they connect to life issues.

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