

## **Online Evaluation System for the Academic Support Services Providers of Iloilo Science and Technology University Miagao Campus**

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### **Abstract**

A performance evaluation system is one of the bases for monitoring the effectiveness of the office personnel in their services to their clientele. This evaluation process assesses a service provider's performance based on their duties at work. This study aims to develop an online evaluation system for the academic support service providers at the Iloilo Science and Technology University Miagao Campus. The purpose of this research is to utilize the system to evaluate the academic support services of the university and provide the basis for improving the performance of service providers. The system employed a prototyping model to develop an evaluation system that allows you to build, test, and revise a prototype until the end user achieves an acceptable performance rating. To evaluate the system using the ISO 25010 software quality model, ten IT experts were selected, and thirty selected students the rating for the IT expert was 4.79, which is very effective with a standard deviation of 0.11, and the rating for the end user was 4.75 on the mean with a 0.26 standard deviation. These show that the system is very effective. The system will serve as the basis for enhancing the effectiveness of university service providers.

**Keywords:** Online System, Performance Evaluation, Academic support services, ISO 25010

## 1. Introduction

Any educational institution must have the ability and desire to examine and evaluate nonacademic and support services, learning opportunities, and services. Serviced office providers must be deemed efficient to a range of stakeholders, including internal ones like the student body, faculty, and administrators, as well as external ones like graduates and those overseeing higher education.

Assessment is the process of gathering information to evaluate the efficacy of a program or unit. Research is the process of putting theories and constructs to the test in order to ascertain whether intended and actual outcomes are aligned. Strategic planning is the deliberate process of achieving goals and objectives for the unit. Evaluation is the use of assessed data to enhance organizational effectiveness.

Evaluating school services is difficult and most of the time requires sufficient time. Thanks to modern online tools and the development of mobile technology, students and other clients can now evaluate the service providers in school work quickly and easily, saving more valuable time for their next activities.

In the study of Kay S. Dennis, Ed. D. and Marthann Schulte, Ph. D. (2011) entitled “Linking Academic Quality to Online Faculty Development and Evaluation “, they presented three different scenarios: (1) an institution with a young online program and ample resources might select a robust, complex system that provides detailed reports and a great deal of professional development for new online instructors; (2) an institution with a large program, well-established policies, and fewer resources might prefer an approach that combines high efficiency with less detailed reporting and limited professional development for instructors; and (3) an institution with program and resources of moderate size might implement a system that affords both efficiency and professional development for instructors. Park University has experienced each of these conditions and responded with effective quality assurance measures that have helped moved our online learning programs forward.

This session describes the development and successful use of three different quality assurance methods that can be adapted by institutions with varying resources, enrollments, and training and development needs. They will examine and discuss how efficient and effective systems can produce constructive evaluation and retention of online instructors in addition to desirable outcomes for students and institutions.

In the study, “A Fuzzy Logic Approach to Performance Evaluation” by Salwa Ammar and Ronald Wright (1995), the fuzzy logic rule-based system was developed to analyze this inherently imprecise data. In their paper, they describe the current procedures and their obvious defects, a preliminary model which corrects the worst deficiencies.

The fuzzy rule-based system allows for a more reliable and consistent interpretation of results. It also allows the user

considerable flexibility in analyzing the results. Any of the fuzzy sets' membership ranges and rules may be simply modified subjective to varying situations.

In the study conducted by MylahSison on “Evaluation of Student Affairs and Services Programs: A Tool for Quality Improvement”, manual evaluation of Students Affairs and Services (SAS) using a quantitative design framework was implemented to assess the quality of services as a tool for quality improvement in the field of student welfare, student development, and institutional programs and services.

There is a problem in the manual evaluation of the services being offered by the University. The in-person evaluation is slow in generating the statistical report and is prone to manipulation.

The researchers found a gap in previous studies, therefore they come up with the study to create an online evaluation system for all academic support services providers to improve the services of the offices. The students or alumni will log in to the system and fill- out the evaluation form. It is a hassle-free and user-friendly system that can generate evaluation reports, and help to improve the performance of the university in terms of services to its clientele.

### *1.1. Objectives:*

This study aims to develop an Online Evaluation System (OES) for the Academic Support Services Providers of the Iloilo Science and Technology University Miagao Campus

Specifically, this study has the following objectives:

- a. Develop an Online Evaluation system for the Academic Support Services
- b. View evaluation results per service office
- c. Determined the quarterly statistical reports of evaluation

- d. To utilize the system in evaluating the academic support services of the University
- e. The basis for the improvement of the performance of service providers
- f. Evaluate a system using ISO 25010 software quality

### 1.2. Conceptual Framework

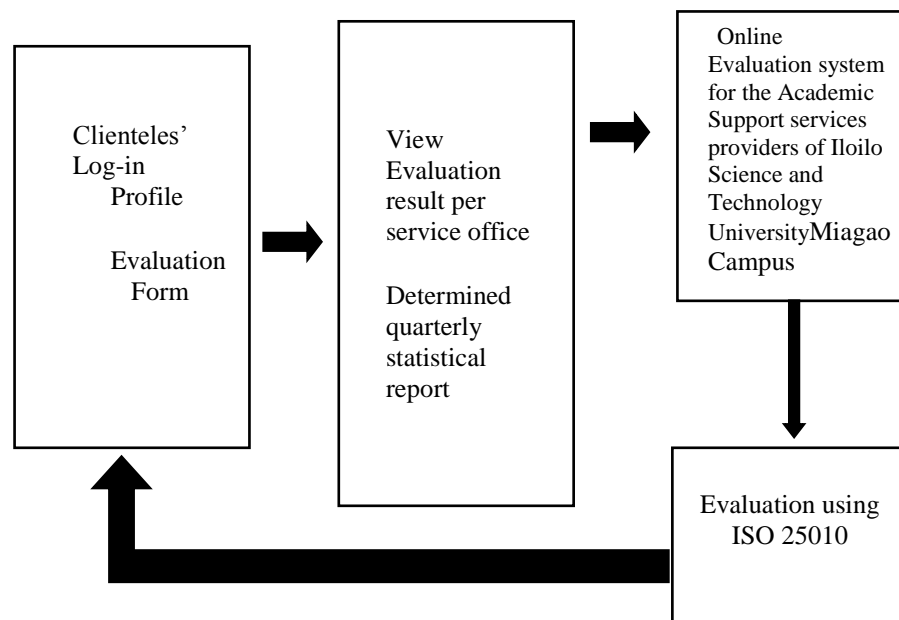


Figure 1. The Conceptual Framework of the study

The system inputs come to the client, log-in information through the online evaluation system using their ID number and password, then the client will select the offices where they like to evaluate and fill out the evaluation forms. The system will confirm and process the log-in data of the end users and generate the results of the evaluation. The system administrator can view the evaluation results per service office. The quarterly statistical reports will also be determined and printed by the system.

The output of the system is the Online Evaluation system for the Academic Support services providers of Iloilo Science and Technology University Miagao, and these will be evaluated by the 10 IT Experts and 30 selected students and alumni as End Users.

## 2. Research Methodology

The Prototyping Model was used in this study. It is a software development model that can be used to create a foundation for a final system or software. Throughout the process, the model allows you to build, test, and rework a prototype until you reach an acceptable version. It performs effectively when changes are made frequently until the project's requirements are met. According to Martin, both the developer and the client are involved in this iterative, trial-and-error process (2021).

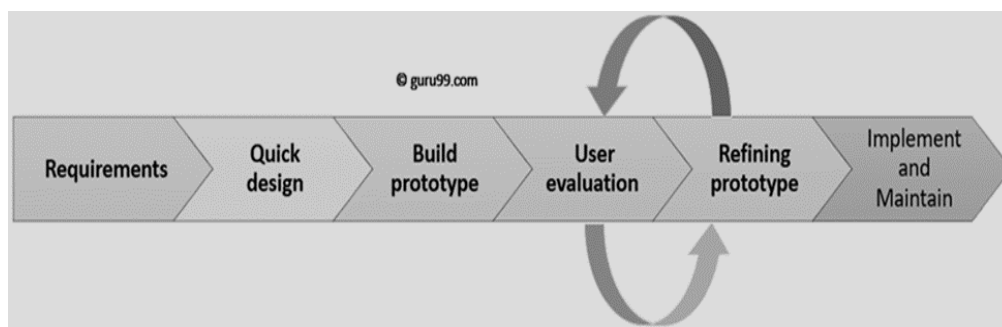


Figure 2. Prototyping Model, Martin (2021).

### 2.1. Phases of the Prototyping Model are as follows:

#### Step 1: Requirements Gathering and Analysis

The first step in a prototyping model is requirement analysis. During this phase, the system's requirements are defined. As part of the process, system users are interviewed to learn about their expectations for the system.

During this phase, the researcher interviewed students and the head of the office of student affairs about how they evaluate academic support services for students.

#### Step 2: Quick Design

During this phase, the researcher created an activity diagram and a system sequence diagram. However, it only gives a broad overview of how to design a system based on the needs of the end user. It is also the user's brief idea or concept. This stage makes a significant contribution to the prototype's development.

#### Step 3: Build a Prototype

During this stage, the researcher created a system prototype based on the information gathered, designed it according to the needs of the office, and developed an operational system. It includes software development, design, and testing of the implemented algorithm.

During this phase, the researcher analyzed the evaluation system for the academic support services process with the addition of student academic support services offices and an evaluation instrument. The system has two users; the system administrator and the clientele. The system administrator can add offices and parameters, add survey forms and client monthly statistics, and view questions for evaluation. While the clientele can select the service provider offices and rate the feedback form.

#### Step 4: Initial User Evaluation

The designed system was at this phase presented to the client for a preliminary assessment. It aids in identifying the advantages and disadvantages of the working model. Client comments and recommendations are compiled and sent to the researcher.

The system was assessed during this phase using the ISO 25010 software evaluation standards. Five (30) end users from the Students and the Office Staff and ten (10) IT experts were chosen to evaluate the system using a Likert scale.

#### Step 5: Refining Prototype

The researcher must now debug the system prototype using the users' comments and recommendations. The user needs would not be satisfied until this phase was completed. A final system was developed based on the developed prototype once the user granted it their acceptance.

#### Step 6: Implement Product and Maintain

After the system was developed based on the final prototype, the technology was thoroughly evaluated before being introduced to an office of students' academic support services providers.

The database server's routine maintenance was performed during this phase. To minimize errors and bug downs, the system was evaluated each month.

### **3. Result and Discussion**

The ISO 25010 criteria for software evaluation were adopted to evaluate the system. Ten (10) IT Experts and Thirty (30) End Users as students and Alumni of this university were selected to evaluate the system using the Likert Scale Rating shown below:

Table 1. Likert Scale Rating

| Scale       | Description          |
|-------------|----------------------|
| 4.50 – 5.00 | Very Effective       |
| 3.50 – 4.49 | Effective            |
| 2.50 – 3.49 | Moderately Effective |
| 1.50 – 2.49 | In effective         |
| 1.0 – 1.49  | Very Ineffective     |

Table 2. Result using ISO/IEC 25010 Evaluated by the Ten (10) IT Expert

| Variables              | N  | Sd   | Mean | Description    |
|------------------------|----|------|------|----------------|
| Functional Suitability | 10 | 0.17 | 4.87 | very effective |
| Performance Efficiency | 10 | 0.17 | 4.84 | very effective |
| Compatibility          | 10 | 0.32 | 4.6  | very effective |
| Usability              | 10 | 0.14 | 4.82 | very effective |
| Reliability            | 10 | 0.13 | 4.88 | very effective |
| Security               | 10 | 0.44 | 4.62 | very effective |
| Maintainability        | 10 | 0.11 | 4.88 | very effective |
| Portability            | 10 | 0.28 | 4.77 | very effective |
| Over All Result        | 10 | 0.11 | 4.78 | very effective |

Table 2 shows the result of the evaluation of the system by Ten (10) IT experts. The results revealed that the system is “very effective” as shown in the over- all result ( M= 4.78, SD= 0.11) and in terms of Functional Suitability ( M=4.87, SD= 0.17), Performance Efficiency ( M= 4.84, SD= 0.17), Compatibility ( M= 4.6, SD= 0.32), Usability ( M= 4.82, SD= 0.14), Reliability (M= 4.88, SD= 0.13), Security ( M= 4.62, SD= 0.44), Maintainability (M= 4.88, SD= 0.11), and Portability (M=4.77, SD= 0.28).

This implied that the system would not be affected by any modifications made during the service period and would require less effort to modify its service. Additionally, it complies with the standard and is easily adaptable to changes in a given environment without affecting its functionality.

The SD also suggests that the system might be able to meet the requirements for software quality set by ISO/IEC 25010 standards. This suggests that the software is of high quality and could offer its customers high-quality services.

Table 3. Result of Evaluation for thirty (30) End User students and Alumni

| Variables              | N  | Sd   | Mean | Description    |
|------------------------|----|------|------|----------------|
| Functional Suitability | 30 | 0.43 | 4.67 | very effective |
| Usability              | 30 | 0.24 | 4.82 | very effective |
| Maintainability        | 30 | 0.33 | 4.73 | very effective |
| Portability            | 30 | 0.4  | 4.76 | very effective |
| Over All Result        | 30 | 0.26 | 4.74 | very effective |

Table 3 shows the result of the evaluation of the system by thirty (30) End Users As revealed in the data, the over-all result signifies that the system is “very effective” (M= 4.74, SD= 0.26). The same result is shown as to the system’s Functional Suitability (M= 4.67, SD= 0.43), Usability (M= 4.82, SD= 0.24), Maintainability (M= 4.73, SD= 0.33), and Portability (M= 4.67, SD= 0.4).

These findings suggest that the system has been designed to be as simple to operate and use as possible. Additionally, attributable to its features, it could offer the Office of the Academic Service Provider, alumni, and students high-quality services.

#### 4. Conclusions

Based on the results presented, the following conclusions were drafted:

- 4.1. The system complies with the criteria defined for developing a web-based evaluation system for academic support services. The system is accessible online, allowing for a quicker assessment and viewing of evaluation results and determining the quarterly statistical reports of its support service offices.
- 4.2. Based on the research, an online performance evaluation system will be developed specifically for the university's academic support services. The system will serve as the basis for enhancing the effectiveness of service providers.



4.3 Based on the evaluation of the IT Expert the overall mean has a rating of 4.9 and a standard deviation of 0.12. And the end users have an overall average of 4.96 and a standard deviation of 0.08 which indicates that the system is very effective and the rating of both the IT Expert and end-user did not deviate.

## 5. Recommendations

Based on the preceding findings and conclusions, the following series of actions are recommended:

- 5.1 The system must be fully implemented by the ISAT U Miagao Campus. This system will lead to a hassle-free and user-friendly system that can generate evaluation reports, and help to improve the performance of the University in terms of services to its clientele.
- 5.2 It is recommended that future researchers make further enhancements to the system, specifically to develop an overall average rating of the clientele in every office and develop a graph to display the result per quarter.
- 5.3 Create a recommender algorithm to determine which offices and services need to be improved.
- 5.4 The future researcher may consider conducting a similar study and also expanding the scope of the system

## References

Kay S. Dennis, Ed. D. and Marthann Schulte, Ph. D. (2011) entitled "Linking Academic Quality to Online Faculty Development and Evaluation, (2011) IEEE 14th International Conference on Interactive Collaborative Learning (ICL2011)

Salwa Ammar and Ronald Wright Department of Business Administration, (1995) Le Moyne College, Syracuse, NY 13214 A Fuzzy Logic Approach to Performance Evaluation, 0-8186-7126-2195 \$4.00 0 1995 IEEE Proceedings of ISUMA-NAFIPS '95

MylahSison on "Evaluation of Student Affairs and Services Programs: A Tool for Quality Improvement", International Journal of Education and Research Vol. 7, No. 10, October 2019.