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The Evaluation of the Laguna State Polytechnic University Online Student's Grading System

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Abstract

In this New Normal, Universities and Colleges utilize Web portals that have become popular among higher education institutions for a variety of reasons, chief among which is the competitive advantage such portals offer by facilitating a single point of access to multiple web services. Online grading is an exercise in professional judgment on the part of teachers. This research was carried out in order to evaluate the Online Student's Grading System of Laguna State Polytechnic University. The study aims to evaluate the LSPU - Online Student's Grading System. Determine the user interface affects the system's functionality, and perception of stakeholders to the system in terms of demographic profile and assess the LSPU – Online Students Grading System based on ISO 9126: Functionality, Reliability, Usability, Efficiency, Maintainability, and Portability. 132 college students took part in the study, and they were handed survey questions via Google forms. According to the findings, more respondents, such as Laguna State Polytechnic University stakeholders, are needed to gain more insights and recommendations for deploying an enhanced online grading system for the University. There are a variety of technicalities and functions to consider.

Keywords: Grading system; LSPU; Online Grading; Evaluation

1. Introduction

Web portals have become popular among higher education institutions for a variety of reasons, chief among which is the competitive advantage such portals offer by facilitating a single point of access to multiple web services. Despite their critical importance, there has been relatively little research devoted to evaluating best-practice concepts in the design and content of web portals vis-a-vis user satisfaction.

In essence, grading is an exercise in professional judgment on the part of teachers. It involves the collection and evaluation of evidence on students' achievement or performance over a specified period of time, such as nine weeks, an academic semester, or entire school year. Some issues have created more controversy among educators than those associated with grading and reporting student learning. However, despite the many debates and multitudes of studies, prescriptions for best practice remain elusive.

Grading refers to the symbols assigned to individual pieces of student work or to composite measures of student performance on student report cards. Grades or marks, as they were referred to in the first half of the 20th century, were the focus of some of the earliest educational research. Grading research history parallels the history of educational research more generally, with studies becoming both more rigorous and sophisticated over time. (Guskey, 2016)

This state institution (LSPU) started from its humble beginnings in 1952. it was first established as a provincial high school known as Baybay Provincial High School, the first public high school established in the shoreline (baybay) district of Laguna de Bay and the second in the whole Province of Laguna. Then in 1957, by virtue of Republic Act No. 1807 on June 1957, the Baybay Provincial High School was converted into Baybay National Agricultural and Vocational School (BNAVS).

BNAVS became the PACD-BVE Training Center in rice production for American Peace Corps Volunteers. This center produced 682 graduates. The Manpower Training Center Started to operate in the school year 1968-1969. BNAVS also

became the pilot school for the 2-year Agricultural Technician Curriculum, Associate in Agriculture. This started in December 1969 with eight enrollees.

With the passage/approval of HB 269 into law in June 1971: Republic Act No. 6321, it converted BNAVS into Baybay National College of Agriculture and Technology (BNCAT). BNCAT then was offering the following courses:

1) Secondary Agriculture Curriculum;
2) Two-year Associate in Agriculture (technical course);
3) degree courses leading to Bachelor of Science in Agriculture (2nd Semester 1975-76), and Bachelor of Science in Agricultural Education (First Semester 1977-78).

The College was also one of the Experimental Agricultural High Schools (EAHS) selected by the Educational Development Projects Implementing Task Force (EDPITAF) under Presidential Decree No. 6-A, to receive World Bank Aid in terms of infrastructure equipment and staff development.

This state institution was a grantee of the Agricultural Education Outreach Project (AEOP) from 1980 to 1983. AEOP was a research project of the United States Agency for International Development (USAID). Research programs became more prioritized and government extension programs became more aggressive.

On June 10, 1983 by virtue of Batas Pambansa No. 482, BNCAT was further converted into a state college, known as the Laguna State Polytechnic College. From then on the Laguna State Polytechnic College grew bigger and better, with the incumbency of Dr. Ricardo A. Wagan as the first College President in 1986, several projects and infrastructure developments poured into LSPC. Among the remarkable accomplishments then were as follows:

In 1993, this state institution was designated by the Department of Education, Culture and Sports (DECS) as one of the seven (7) Provincial Technical Institutes of Agriculture (PTIAs) in Region IV under the Aus-AID-AGRITECH Project aimed at improving the curriculum, instructional programs and the development of practical and applied researches.

It opened four (4) satellite campuses through Memoranda of Agreements with the local governments; and It integrated the following three (3) CHED-Supervised Institutions in accordance with the Special Provision No. 2 of the CHED FY 1999 Budget under the General Appropriations Act of 1999 or Republic Act No. 8745 and Republic Act No. 8292 Higher Education modernization Act of 1997, through the issuance of the following: CHED Memorandum No. 18, s. 1999 entitled Issuance of the Implementing Guidelines on the Integration of CHED-Supervised Institutions (CSIs) to State Universities and Colleges (SUCs). This integration formally took place on October 5 and 25, 1999, respectively, to wit: Laguna College of Arts and Trades, now LSPU-Sta. Cruz Campus located at Barangay Bubukal, Sta. Cruz, Laguna Los Baños College of Fisheries now LSPU-Los Baños Campus located at Barangays Malinta, Los Baños, Laguna CHED Memorandum Order No. 27, s. 2000 Issuance of Implementing Guidelines of the Integration of CHED-Supervised Institutions (CSIs) to State Universities and Colleges (SUCs) (Phase II).

The formal turn-over ceremony took place on December 11, 2000, to wit: San Pablo City National School of Arts and Trades, now LSPU-San Pablo City Campus, located at Barangay Del Remedio, San Pablo City His incumbency is marked by a list of distinctive accomplishment such as the establishment of a multi-campus State Institution; a remarkable increase in the number of non-degree and degree curricular programs/offerings which resulted in increased enrollment and need for more teachers; exempted Secondary School Teachers to be transferred to DECS per CHED-DECS joint circular, intensified rehabilitation, repair, face-lifting of old structures and construction of new academic, research, library, dormitory, canteen-cafeteria, sports and recreation facilities; opened the Graduate Studies and Applied Research in its four (4) Campuses; acquired state of the art equipment e.g., Speech Lab., computers, Physics, Chemistry, and Biology Laboratory equipment, the Tissue Culture Laboratory. (http://lspu.edu.ph)

1.1 Objectives of the Study

The study aims to evaluate the **LSPU - Online Student's Grading System**. Specifically, it aimed to:

1. To determine the user interface affects the functionality of the system, in terms of the following:
    1.1 Buttons
    1.2 Themes
    1.3 Label
    1.4 Other visual objects

2. To know the perception of stakeholders to the system in terms of demographic profile.
    1.1 Age

2.2 Status
2.3 Gender

3. To assess the LSPU – Online Students Grading System based on ISO 9126
   3.1 Functionality
   3.2 Reliability
   3.3 Usability
   3.4 Efficiency
   3.5 Maintainability
   3.6 Portability

2. Methodology

2.1 Research Design

The study adopted a **descriptive research design**. The proponent collected data through Online questionnaires via google form adapting the **ISO 9126** to see the user interface that affects the functionality of the system of **LSPU - Online Student's Grading System** in terms of the following: Buttons, Themes, Label, and Other visual objects.

ISO 9126 is an international standard for the evaluation of software. The standard is divided into four parts which addresses, respectively, the following subjects: quality model; external metrics; internal metrics; and quality in use metrics. ISO 9126 Part one, referred to as ISO 9126–1 is an extension of previous work done by McCall (1977), Boehm (1978), FURPS and others in defining a set of software quality characteristics. (https://medium.com/@leanardbuenaflor/iso-9126-software-quality-characteristics)

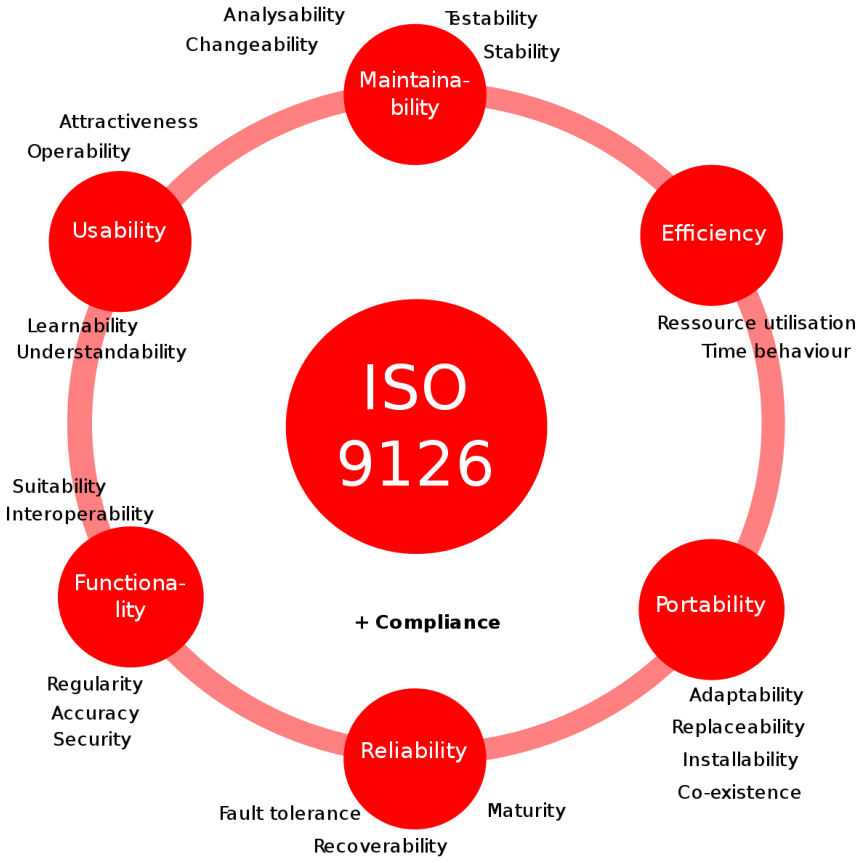

Fig. 2. ISO 9126 Model

Descriptive research simply describes what is prevalent with respect to the issue or problem under study. It simply does not fit neatly into the definition of either quantitative or qualitative research methodologies. Instead, it can utilize elements of both, often within the same study. The term descriptive research refers to the type of research question, design, and data analysis that applied to a given topic. Descriptive statistics tell what is, while inferential statistics try to determine cause and effect.

2.2 Respondents of the Study

Respondents of the study are college students from the College of Computer Studies in Laguna State Polytechnic University. Their age ranges from 18 to 23 years old and currently taSking up Bachelor of Science in Information Technology. All respondents are also aware about the LSPU - Online Grading System.

2.3 Research Instrument

In general, the size of the sample in each stratum took in proportion to the size of the stratum. The proponent took a sample of number of employees, stratified on the categories.

The proponent utilized the **Numerical Rating** and the Equivalent to rate the respondents' perception from 1 to 5, with 5 as the highest rating. The levels (or scale) used to differentiate between Excellent, Very Good, Good, Fair, and poor evaluations. Each level is accompanied by a criterion or set of criteria, that specifies what is needed to reach that level of quality.

Numerical Rating	**Equivalent**
5	Excellent
4	Very Good
3	Good
2	Fair
1	Poor

2.4 Statistical Treatment

The proponent utilized **stratified sampling**, which is the process of selecting a sample that allows identified subgroups in the defined population to be represented in the same proportion that they exist in the population. The proponent adopted this for both proportions and stratification sampling that represents the desired strata.

3. Results and discussion

This section presents the analysis and interpretation of the results of the researcher's survey findings. This section also aims to answer the objectives as a basis for evaluation of LSPU – Online Student's Grading System. The researcher used via Google Forms online distributed survey questionnaires to Bachelor of Science in Information Technology (BSIT) students from the College of Computer Studies.

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1. How does user interface affects the functionality of the system?
    1.1 Buttons
    1.2 Themes
    1.3 Label
    1.4 Other visual objects

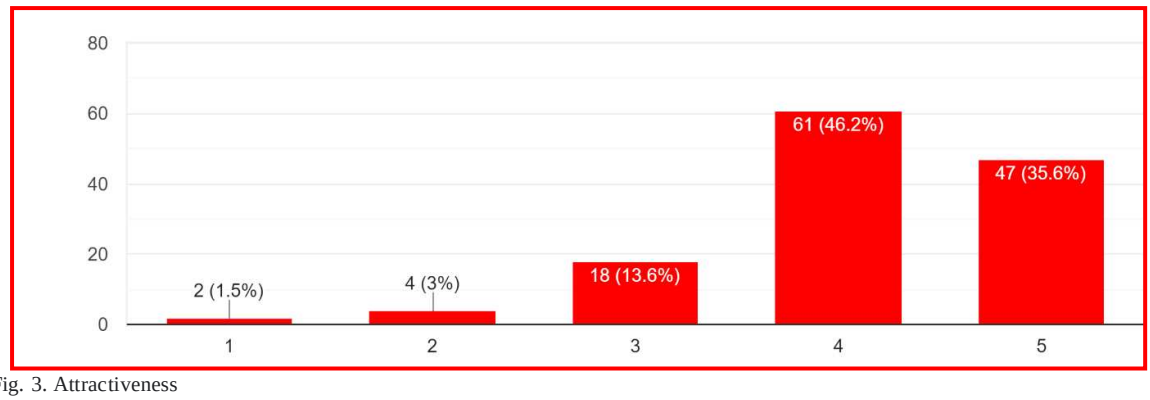

Fig. 3. Attractiveness

Figure 3. Attractiveness shows the user interface affects the functionality of the system. There are 61 students equivalent to 46.2% answered **"Very Good**". There are 47 students or 35.6% answered **"Excellent"**, while there are 18 students who answered **"Good"** which is equivalent to 13.6%. Four (4) students answered **"Fair"** that is equivalent to 3% and lastly two (2) students answered **"Poor"** that is equivalent to 5%. The Online Grading System design has a consistent navigation in buttons, label, themes and other visual objects.

2. What is the perception of the stakeholders to the system in terms of demographic profile?
   2.1 Age
   2.2 Status
   2.3 Gender

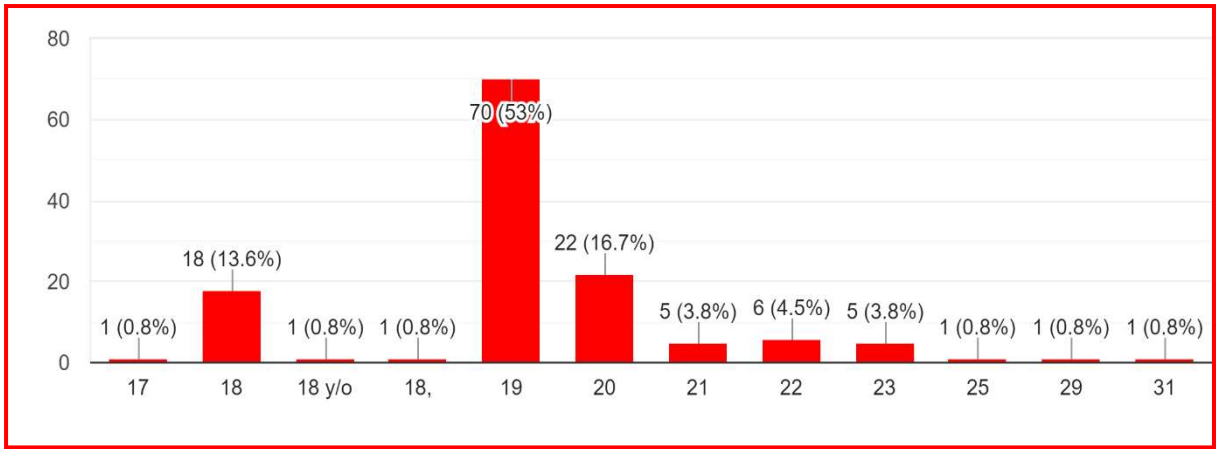

Fig. 4. Age

As indicated in Figure 4. Demographic: Age on the demographic profile, the range of respondents answered in terms of their perception to the system ranges from 17 (0.8%) – 31 (0.8%) years old. The highest age answered is 19 years old got 70 equivalents to 53%. All the respondents answered SINGLE in terms of their Status.

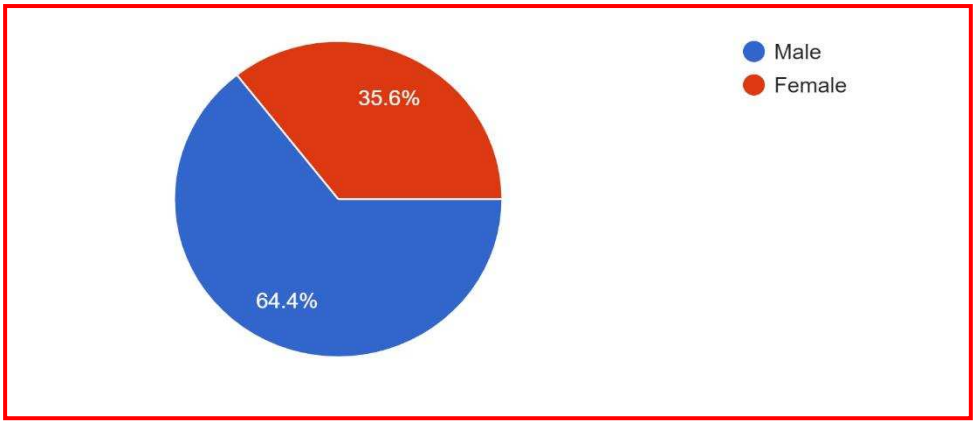

Fig. 5. Gender

As shown Figure 5, the student's demographics: GENDER shows that 64.4% are male students and 35.6% are female students.

3. How to assess the LSPU – Online Students Grading System based on ISO 9126?
   3.1 Functionality
   3.2 Reliability
   3.3 Usability
   3.4 Efficiency
   3.5 Maintainability

A. FUNCTIONALITY

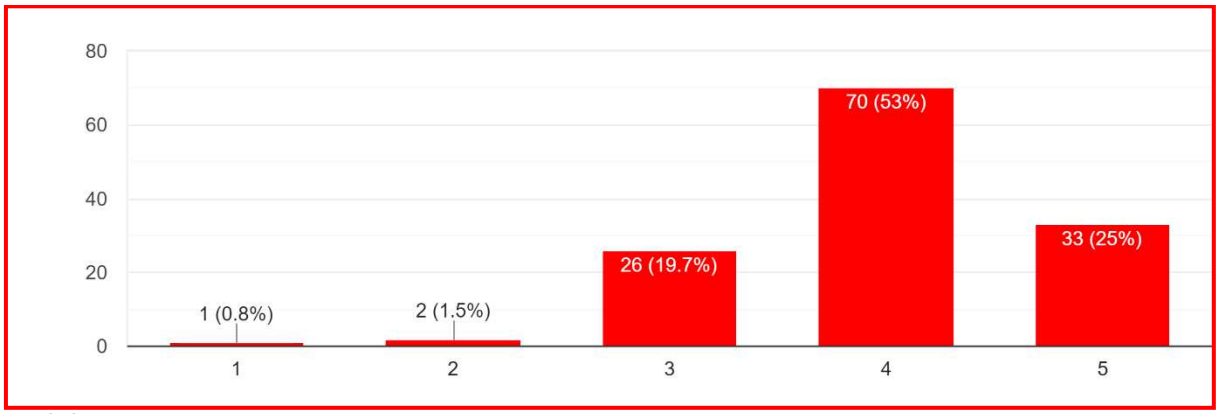

Fig. 6. Accurateness

Figure 6. displayed the accurateness of the students' grading system. 70 students answered the system is **"Very Good"** with the equivalent of 53%, then 33 students answered **"Excellent"** or 25%. There are 26 students equivalent to 19.7% answered **"Good"**, two (2) or 1.5% answered **"Fair"** and lastly 1 or 0.8% answered **"Poor"**. The Online Grading System provides an accurate functions and procedures used and shared by multiple users in the organizations.

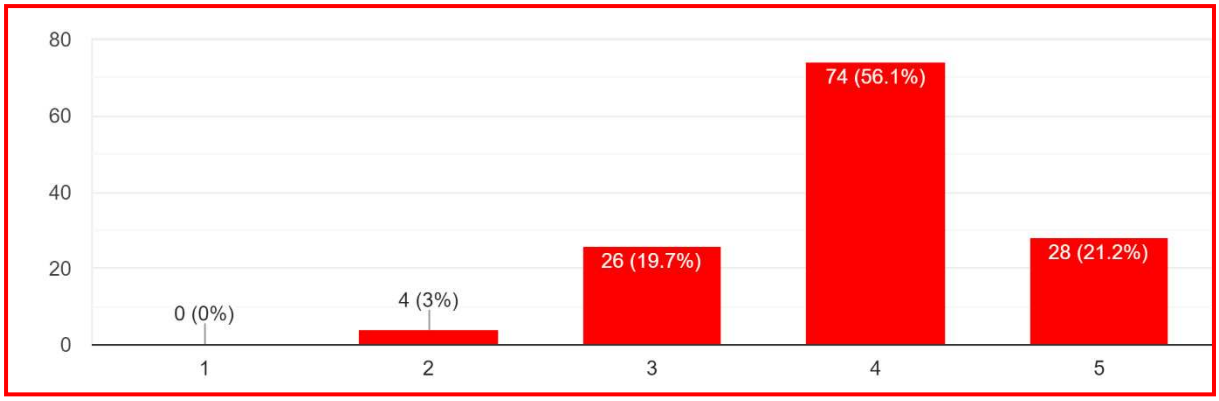

Fig. 7. Interoperability

Figure 7 shows the interoperability of the system of the students' grading system. There are 74 students equivalent to 56.1% answered the system is **"Very Good"**, then 28 students answered **"Excellent"** with the equivalent of 21.2%. There are 26 students equivalent to 19.7% answered **"Good"**, four (4) or 3% answered **"Fair"** and no students answered "**Poor"**. The Online Grading System can be effortlessly operated by 132 students' responses

B. RELIABILITY

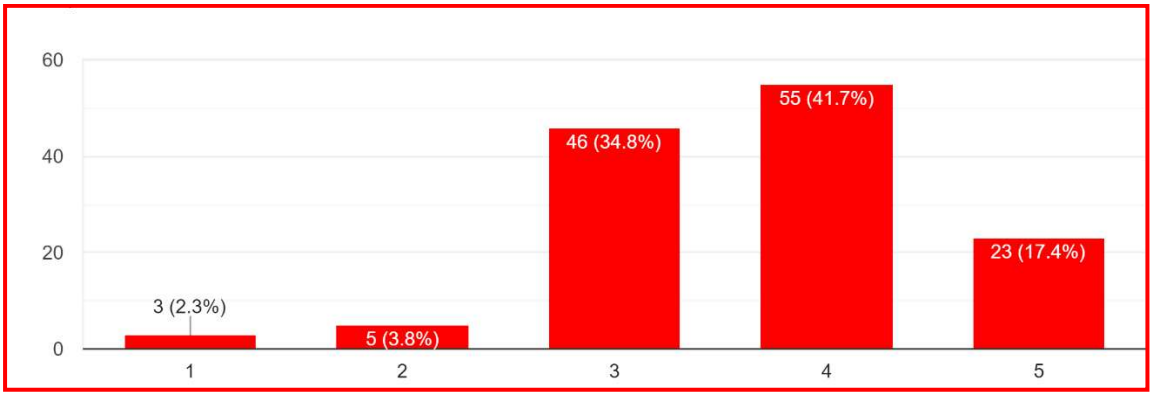

Fig. 8. Fault Tolerance

Figure 8 reveals the system fault tolerance, it shows the 55 students answered "**Very Good**" which is equivalent to 41.7%. There are 46 students or 34.8% answered **"Good"**, while there are 23 students answered **"Excellent"** which is equivalent to 17.4%. Five (5) students answered **"Fair"** that is equivalent to 3.8% and lastly three (3) students answered **"Poor"** that is equivalent to 2.3%. The Online Grading System can accommodate failures or malfunctions.

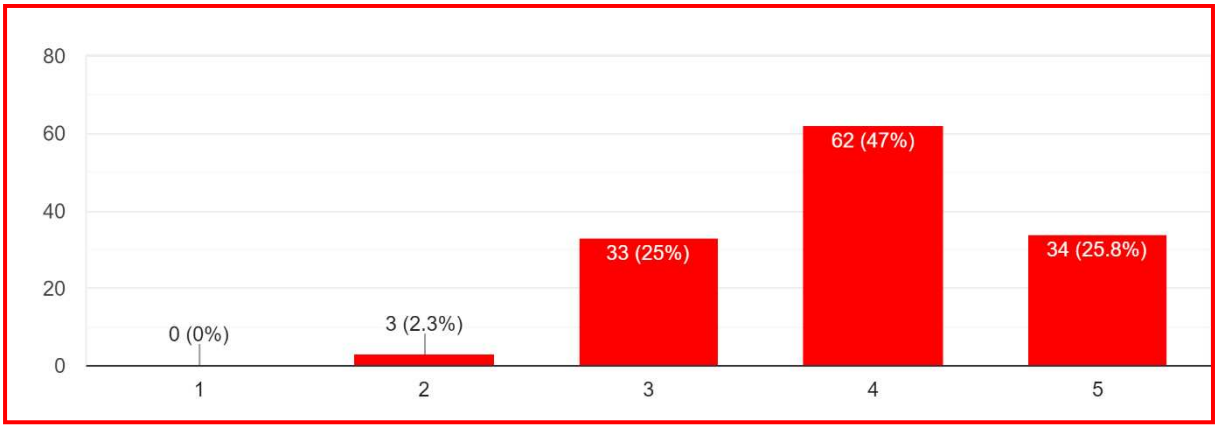

Fig. 9. Recoverability

Figure 9 exposes the system's recoverability; it shows the 64 students answered "**Very Good**" which is equivalent to 47%. There are 34 students or 25.8% answered **"Excellent"**, while there are 33 students answered **"Good"** which is equivalent to 25%. Three (3) students answered **"Fair"** that is equivalent to 2.3% and none answered **"Poor"**. The Online Grading System has a direct effect on the recover-ability of student's grades with 132 responses.

C. USABILITY

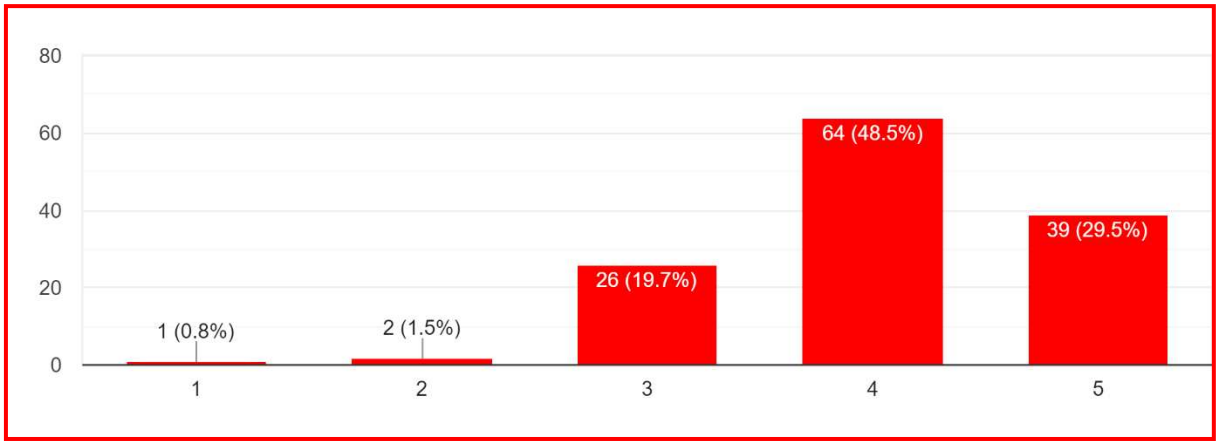

Fig. 10. Understandability

Figure 10 displayed the understandability of the students' grading system. There are 64 students answered the system is **"Very Good"** with the equivalent of 48.5 which is equivalent to 48.5%, then 39 students answered **"Excellent"** or 29.5%. There are 26 students equivalent to 19.7% answered **"Good"**, two (2) or 1.5% answered **"Fair"** and lastly 1 or 0.8% answered **"Poor"**. The Online Grading System provides user-friendly interface and reliable information with 132 responses.

E. MAINTAINABILITY

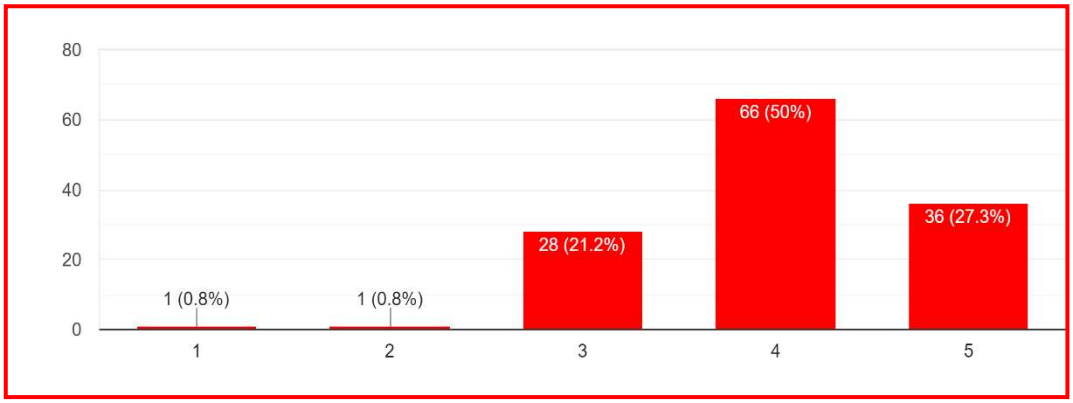

Fig. 11. Changeability

Figure 11 presents the system changeability; it shows the 66 students answered "**Very Good**" which is equivalent to 50%. There are 36 students or 27.3% answered **"Excellent"**, while there are 28 students answered **"Good"** which is equivalent to 21.2%. One (1) student answered **"Fair"** that is equivalent to 0.8% and lastly one (1) student answered **"Poor"** that is equivalent to 0.8%. The Online Grading System provides the functions to edit the encoded grades of the faculty members and has 132 responses.

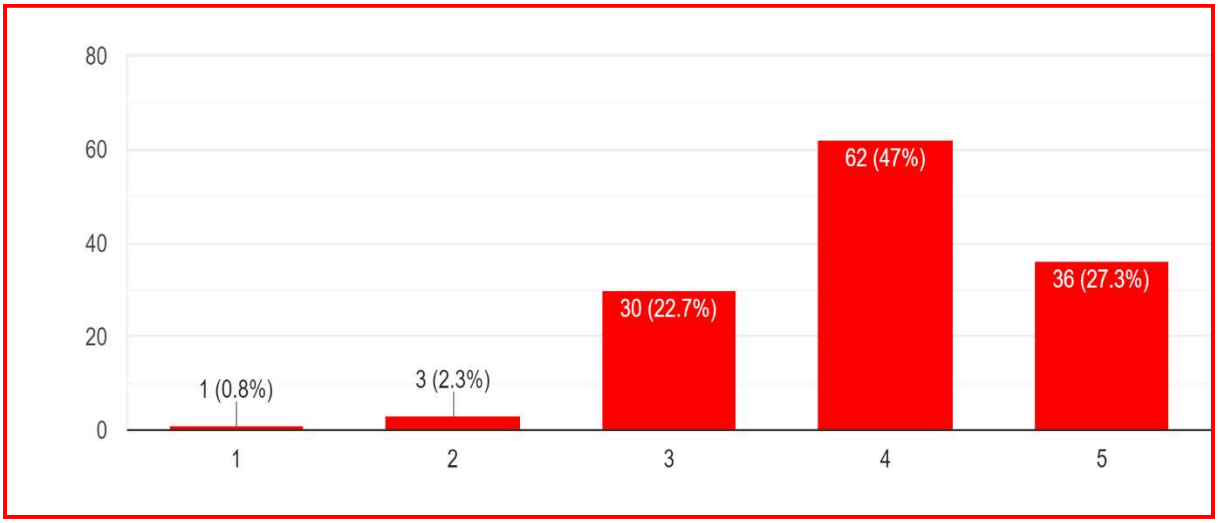

Fig. 12. Testability

As shown in Figure 12, system testability; it displays the 62 students answered "**Very Good**" which is equivalent to 47%. There are 36 students or 27.3% answered **"Excellent"**, while there are 30 students answered **"Good"** which is equivalent to 22.7%. Three (3) students answered **"Fair"** that is equivalent to 2.3% and one answered **"Poor"** equivalent to 0.8%. The Online Grading System has a direct effect on the testability and supports testing in a given test context with 132 responses.

F. PORTABILITY

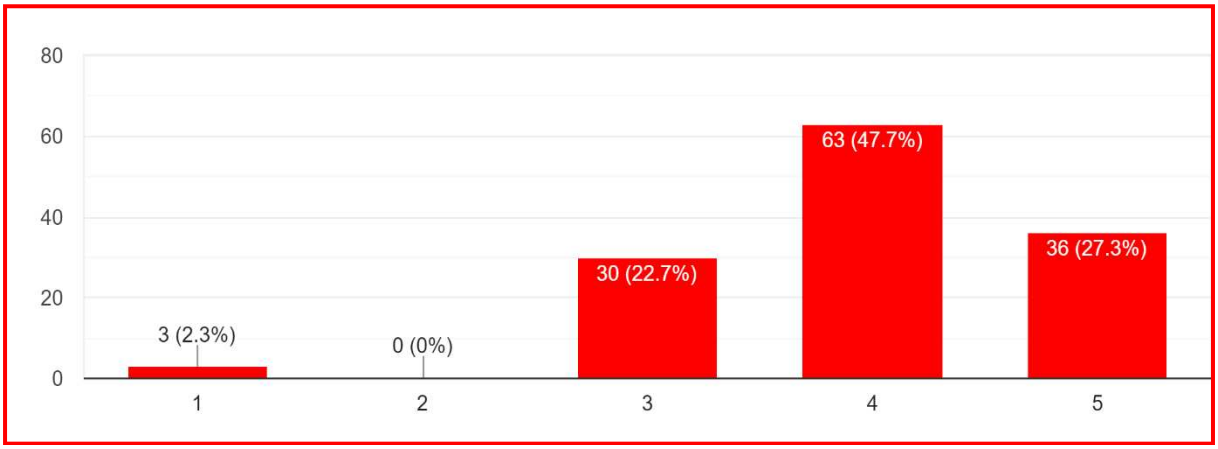

Fig. 13. Adaptability

Figure 13 exposes the system adaptability; it shows the 63 students answered "**Very Good**" which is equivalent to 47.7%. There are 36 students or 27.3% answered **"Excellent"**, while there are 30 students answered **"Good"** which is equivalent to 22.7%. and lastly three (3) students answered **"Poor"** that is equivalent to 2.3%. The Online Grading System is therefore an open system that can fit its behavior in its environment or in some parts of the system with 132 responses.

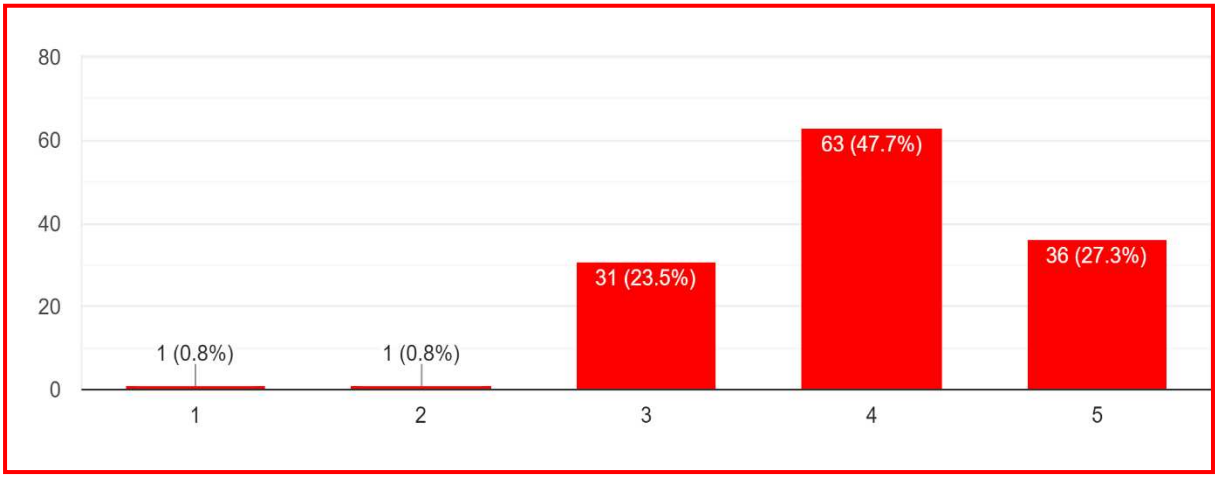

Fig. 14. Replaceability

Figure 14 reveals the system's replaceability it shows the 63 students answered "**Very Good**" which is equivalent to 47.7%. There are 36 students or 27.3% answered **"Excellent"**, while there are 31 students answered **"Good"** which is equivalent to 23.5%. One (1) student answered **"Fair"** that is equivalent to 0.8% and lastly one (1) student answered **"Poor"** that is equivalent to 0.8%. The Online Grading System can support the process to replace encoded grades and information with 132 responses.

4. Conclusion and recommendation

The study "The Evaluation of the Laguna State Polytechnic University Online Student's Grading System" was conducted to provide easy access for the students in viewing their grades. The researcher concludes and found out that the evaluation of the Laguna State Polytechnic University Online Student's Grading System was indeed a feasible and implemented in the University. Moreover, it was proven that the system can let the students view their grades anywhere as along as the grade was already encoded by the concern instructor. The students can get the actual information's of the system The Online Grading System has a direct effect on the student's demographic profile, functionalities, testability and supports testing in a given test context with 132 responses.

There are numerous areas in which this review of the student's online grading system could be improved. The study focuses on the user interface functionality perception of stakeholders to the system in terms of demographic profile and assess the LSPU – Online Students Grading System based on ISO 9126: Functionality, Reliability, Usability, Efficiency, Maintainability and Portability. It is suggested to cover more respondents such as stakeholders of the Laguna State

Polytechnic University to have more insights and recommendations for the basis of implementation an upgraded online grading system for the University. There are technicalities and functions to be consider. Other factors involve the online grading system for this new normal is recommended for further study.

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