# Chapter 4
# Data Analysis

## 4.1    Introduction

This chapter discusses the analysis of data in relation to the research questions stated in

Chapter 1 i.e.

- What are the quality benchmarks, which are important based on the academic staff perception?

- What are quality benchmarks that present in the e-learning management?

- What are the difference in academic staff perception regarding the importance of quality benchmarks in term of the qualification, job function and location of the branch?

- What are the additional benchmarks suggested by the academic team that can contribute to the quality assurance of e-learning?

This survey consists seven categories of quality measures on quality assurance model of e-learning. A sample of 30 academic staff were involved in this survey. They were required to answer thirty-five questions on their perception of the importance and thirty-five questions on their perception of the presence of the quality benchmark in the e-learning environment in this private higher institution. The respondents also required to answer one open-ended question on the additional feature that can improve the quality assurance of e-learning.

## 4.2    Demographic Data

### 4.2.1    General Background of the Respondents

The following analysis is to establish the demographic of the respondents.

#### 4.2.1.1 Gender of Respondents

**Table 4.1: Frequency and Percentage of Respondents by Gender**

| Gender | Frequency | Percent (%) |
|--------|-----------|-------------|
| Female | 24 | 80.0 |
| Male | 6 | 20.0 |
| Total | 30 | 100.0 |

The respondents comprised of 24 (80%) female academic staff and 6 male academic staff

(20%). This composition reflected the actual composition of gender of the academic staff.

#### 4.2.1.2 Qualification of Respondents

**Table 4.2: Frequency and Percentage of Respondents by Qualification**

| Qualification | Frequency | Percent (%) |
|---------------|-----------|-------------|
| Master | 16 | 53.3 |
| Bachelor | 14 | 46.7 |
| Total | 30 | 100.0 |

16 (53.3%) of academic staff had Master degree and the remaining 14 (46.7%) had

Bachelor degree. There were no PhD. holders working as academic staff in the three

selected branches.

### 4.2.1.3 Job Function of Respondents

**Table 4.3: Frequency and Percentage of Respondents by Job Function.**

| Job Function | Frequency | Percent (%) |
|---|---|---|
| Head | 3 | 10.0 |
| Lecturer | 21 | 70.0 |
| Coordinator | 6 | 20.0 |
| Total | 30 | 100.0 |

3 (10%) of the respondents were the academic head, 6 (20%) were the coordinators and the remaining 21 (70%) were the lecturers in this sample. This distribution represents the actual distribution of the academic staff in these selected three branches.

### 4.3 Academic Staff's Perception of the Quality Benchmarks.

The analysis in this part is to determine the academic staff's perception of the quality benchmarks. The data was obtained from the Part B and C of questionnaires (refer to Appendix, Section B and C). This analysis is related to the first and second research question i.e. 'what are the quality benchmarks, which are important based on the academic staff perception?' and 'what are quality benchmarks that present in the e-learning management?'

There were five questions for each of seven categories. The respondents were required to indicate the importance and the presence of the benchmark on the 5-point Likert scale.

### 4.3.1 Academic Staff's Perception of the Management Support Benchmarks.

**Table 4.4:** Frequency and Percentage of Academic Staff's Perception of Importance and Presence of Management Support Benchmarks.

| Management Support Quality Benchmarks | Response Score | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Professional supports are provided to encourage any innovation in development of e-learning courses. | | | | | |
| Importance | 0 (0.0%) | 0 (0.0%) | 9 (30.0%) | 15 (50.0%) | 6 (20.0%) |
| Presence | 0 (0.0%) | 2 (6.7%) | 19 (63.3%) | 9 (30.0%) | 0 (0.0%) |
| Rewards are offered to encourage effective teaching in e-learning courses. | | | | | |
| Importance | 0 (0.0%) | 0 (0.0%) | 11 (36.7%) | 19 (63.3%) | 0 (0.0%) |
| Presence | 5 (16.7%) | 18 (60%) | 6 (20.0%) | 1 (3.3%) | 0 (0.0%) |
| Documented technology plan, which include the electronic security measures to ensure quality, integrity and validity of information. | | | | | |
| Importance | 0 (0.0%) | 0 (0.0%) | 8 (26.7%) | 13 (43.3%) | 9 (30.0%) |
| Presence | 0 (0.0%) | 1 (3.3%) | 12 (40.0%) | 17 (56.7%) | 0 (0.0%) |
| Measures to ensure the reliability of technology is failsafe at all time. | | | | | |
| Importance | 0 (0.0%) | 0 (0.0%) | 6 (20.0%) | 24 (80.0%) | 0 (0.0%) |
| Presence | 0 (0.0%) | 0 (0.0%) | 1 (3.3%) | 11 (36.7%) | 18 (60.0%) |
| Centralised system to provide support and maintenance of e-learning infrastructure. | | | | | |
| Importance | 0 (0.0%) | 0 (0.0%) | 6 (20.0%) | 24 (80.0%) | 0 (0.0%) |
| Presence | 0 (0.0%) | 1 (3.3%) | 6 (20.0%) | 22 (73.3%) | 1 (3.3%) |

Table 4.4 showed 21 (70%) of the academic staff perceived the professional supports provided was important and only 9 (30%) of them agreed the presence of this benchmarks in the e-learning environment of this private institutions. 19 (63.3%) were unsure of the

45

presence of this benchmark. In general, the academic perceived this benchmark was important but academic staff was unsure of its presence.

Reward offered to encourage effective teaching was perceived important by 19 (63.3%) of the academic staff and 23 (76.7%) of them disagreed the presence of this benchmark in the e-learning environment. Therefore, reward offered was important to academic staff and they disagreed on the presence of the benchmark in the e-learning environment.

22 (73.3%) of the academic staff perceived the documented technology plan was important and 17 (56.7%) felt the presence of this benchmark. Hence, documented technology plan was important and academic staff agreed on its presence in these selected branches.

The importance and presence of the measure to ensure reliability of technology were clearly indicated by more than 75% of the academic staff. Thus, this benchmark was important and present in the e-learning environment of these three branches.

Centralised system to provide support also received a high ranking in term of the importance and presence. The academic staff perceived this benchmark was important and present in the e-learning environment.

**Table 4.5:** Mean and Standard Deviation of the Academic Staff's Perception of the Management Support Benchmarks. (ranking according to the importance)

| Management Support Quality Benchmarks | Importance | Presence |
|---|---|---|
| Measures to ensure the reliability of technology is failsafe at all time. | | |
| Mean | 4.33 | 4.57 |
| Standard Deviation | .66 | .57 |
| Documented technology plan, which include the electronic security measures to ensure quality, integrity and validity of information. | | |
| Mean | 4.03 | 3.53 |
| Standard Deviation | .77 | .57 |
| Professional supports are provided to encourage any innovation in development of e-learning courses. | | |
| Mean | 3.90 | 3.23 |
| Standard Deviation | .71 | .57 |
| Centralised system to provide support and maintenance of e-learning infrastructure | | |
| Mean | 3.80 | 3.77 |
| Standard Deviation | .41 | .57 |
| Rewards are offered to encourage effective teaching in e-learning courses. | | |
| Mean | 3.63 | 2.10 |
| Standard Deviation | .49 | .71 |

Table 4.5 indicated that the academic staff perceived that the reliability of technology was the most important. This was indicated highest mean score of 4.33. The second important quality benchmark was the documented plan to ensure quality, integrity and validity of the information with the mean score of 4.03. The third important quality benchmark was professional support to encourage innovation development in e-learning courses with the mean score of 3.90. The second least important quality benchmark was to have the centralized system to provide support and maintenance of e-learning infrastructure with the mean score of 3.0. The least important was the reward system to encourage effective teaching with the mean score of 3.63. The relative high difference in the standard deviation between the importance and the presence represented that there were wide difference between the academic staff's perception in these benchmarks i.e. professional support and reward system.

The reliability of technology to be failsafe at all time was perceived to be most present in these three branches. This was indicated with the highest mean score of 4.57. Having the centralised system to provide support and maintenance was ranked second with the mean score of 3.77. Academic staff perceived the documented technology plan's presence ranked after the centralized system with the mean score of 3.53. Professional support and reward system were the least present in these branches with their mean score of 3.23 and 2.10 respectively.

### 4.3.2 Academic Staff's Perception of the Course Development Benchmarks.

Table 4.6 in page 49, showed that all academic staff perceived the importance of the existence of guideline regarding minimum standard and only 12 (40%) agreed on the presence of this benchmark. In general, the existence of minimum standard was important and academic staff agreed on its presence.

25 (83.3%) of the academic staff perceived the importance of instructional material to be reviewed periodically and no academic staff agreed in the presence of this benchmark. Therefore, the periodical review of instructional material was important to academic staff but not present in the e-learning environment of these selected branches.

Design of course benchmark was ranked as important by 13 (43.3%) of the academic staff. However 1 (3.3%) of the academic disagreed on the presence of this benchmark and 25 (83.3%) of them were neither agreed nor disagreed with the presence of the benchmark. In general, the design of course was important to the academic staff and most of them were not sure whether this benchmark was present in the e-learning environment.

**Table 4.6:** Frequency and Percentage of Academic Staff's Perception of Importance and Presence of Course Development Benchmarks.

| Course Development Quality Benchmarks | Response Score | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Guidelines exist regarding minimum standards for course development, design and delivery. | | | | | |
| Importance | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 14 (46.7%) | 16 (53.3%) |
| Presence | 0 (0.0%) | 2 (6.7%) | 16 (53.3%) | 12 (40.0%) | 0 (0.0%) |
| Instructional materials are reviewed periodically to ensure they meet the minimum standard. | | | | | |
| Importance | 0 (0.0%) | 0 (0.0%) | 5 (16.7%) | 18 (60.0%) | 7 (23.3%) |
| Presence | 0 (0.0%) | 11 (36.7%) | 19 (63.3%) | 0 (0.0%) | 0 (0.0%) |
| Course are designed with a consistent structure, easily comprehend to students. | | | | | |
| Importance | 0 (0.0%) | 0 (0.0%) | 17 (56.7%) | 13 (43.3%) | 0 (0.0%) |
| Presence | 0 (0.0%) | 1 (3.3%) | 25 (83.3%) | 4 (13.3%) | 0 (0.0%) |
| Course development managed by a team which consists of content expert, instructional designers and evaluation personnel | | | | | |
| Importance | 0 (0.0%) | 5 (16.7%) | 16 (53.3%) | 9 (30.0%) | 0 (0.0%) |
| Presence | 0 (0.0%) | 0 (0.0%) | 20 (66.7%) | 10 (33.3%) | 0 (0.0%) |
| Student's learning style is considered during the course development. | | | | | |
| Importance | 0 (0.0%) | 12 (40.0%) | 16 (53.3%) | 2 (6.7%) | 0 (0.0%) |
| Presence | 12 (40.0%) | 13 (43.3%) | 5 (16.7%) | 0 (0.0%) | 0 (0.0%) |

In the Table 4.6, only 2 (6.7%) of the academic staff perceived the importance of consideration of the student's learning style in the course development. 25 (83.3%) of the academic staff did not perceive the presence of this benchmark. Therefore, this benchmark was not important and not present in these branches.

9 (30%) of the staff perceived the important of having a team to manage the course development. 17 (56.7%) of them were unsure of its importance. 10 (33.3%) of the academic staff perceived the presence of this benchmark. Hence, the academic staff perceived this benchmark was not important and was unsure of its presence in the e-learning of the selected branches.

**Table 4.7:** **Mean and Standard Deviation of the Academic Staff's Perception of the Course Development Benchmarks. (ranking according to the importance)**

| Course Development Quality Benchmarks | Importance | Presence |
|---|---|---|
| Guidelines exist regarding minimum standards for course development, design and delivery. | | |
| Mean | 4.53 | 4.33 |
| Standard Deviation | .51 | .61 |
| Instructional materials are reviewed periodically to ensure they meet the minimum standard. | | |
| Mean | 4.07 | 2.63 |
| Standard Deviation | .64 | .49 |
| Course are designed with a consistent structure, easily comprehend to students. | | |
| Mean | 3.43 | 3.10 |
| Standard Deviation | .50 | .40 |
| Course development managed by a team which consists of content expert, instructional designers and evaluation personnel | | |
| Mean | 3.13 | 3.33 |
| Standard Deviation | .68 | .48 |
| Student's learning style is considered during the course development. | | |
| Mean | 2.67 | 1.77 |
| Standard Deviation | .61 | .73 |

Table 4.7 showed that academic staff's perceived guideline of minimum standards for course development, design and delivery was the most importance, with the mean score of 4.53. The second important quality benchmark was instructional materials are reviewed periodically to ensure they meet the minimum standard with mean score of 4.07. Design of the courses with a consistent structure and easily comprehend to students quality benchmark ranked the third with the mean score of 3.43. The second least important quality benchmark was to have a team consists of content expert, instructional designers and evaluation personnel to manage the course development quality benchmark with the mean

50

score of 3.13. The least important was the consideration of student's learning style during course development with the mean score of 3.63.

The existence of guideline with the minimum standard for course development was ranked to be the most evident in these branches with the mean score of 4.33. The presence of a team to manage course development was ranked the second most present, with the mean score of 3.33. The design of the courses to be easily comprehend was ranked the third most evident, with the mean score of 3.10. However, the second least present in these three branches was the instructional material to be reviewed periodically. The least present benchmark was the consideration of student's learning style during the course development with the mean score of 1.77. The relative high difference in the standard deviation between the importance and the presence represented that there were wide difference between the academic staff's perception in these benchmarks i.e. periodical review of the instructional material.

### 4.3.3 Academic Staff's Perception of the Teaching / Learning Process Benchmarks.

Table 4.8 in page 52, showed that 25 (83.3%) of the academic staff perceived the importance and presence of student's interaction with academic staff. In general, this benchmark was important and present in the e-learning environment.

Feedback to student assignment benchmark was perceived as important by 27 (90%) of the academic staff but only 17 (56.7%) agreed on the presence of this benchmark. 13 (43.3%) of them were unsure of the presence of this benchmark. Therefore, this benchmark was important and present in the e-learning environment as perceived by the academic staff.

The inclusion of the analysis and synthesis part as part of the course objective was perceived as important by 24 (80%) of the academic staff. However, 26 (86.6%) of them disagreed with its presence in the e-learning environment. As a summary, this benchmark was important to the academic staff but not presence in the e-learning environment.

**Table 4.8:** **Frequency and Percentage of Academic Staff's Perception of Importance and Presence of Teaching / Learning Process Benchmarks.**

| Teaching / Learning Process Quality Benchmarks | Response Score | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Student's interaction with the academic staff is facilitated through a variety of ways. | | | | | |
| Importance | 0 (0.0%) | 0 (0.0%) | 5 (16.7%) | 4 (13.3%) | 21 (70.0%) |
| Presence | 0 (0.0%) | 0 (0.0%) | 5 (16.7%) | 24 (80.0%) | 1 (3.3%) |
| Feedback to student assignments and questions is provided in a timely manner. | | | | | |
| Importance | 0 (0.0%) | 0 (0.0%) | 3 (10.0%) | 23 (76.7%) | 4 (13.3%) |
| Presence | 0 (0.0%) | 0 (0.0%) | 13 (43.3%) | 15 (50.0%) | 2 (6.7%) |
| Each module required students to be involved in the analysis and synthesis as part of the course objectives. | | | | | |
| Importance | 0 (0.0%) | 0 (0.0%) | 6 (20.0%) | 22 (73.3%) | 2 (6.7%) |
| Presence | 7 (23.3%) | 19 (63.3%) | 3 (10.0%) | 1 (3.3%) | 0 (0.0%) |
| E-mail system to encourage students to work with each other and academic staff. | | | | | |
| Importance | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 14 (46.7%) | 16 (53.3%) |
| Presence | 0 (0.0%) | 0 (0.0%) | 7 (26.7%) | 18 (60.0%) | 4 (13.3%) |
| Feedback to students is provided in the manner that is constructive and non-threatening. | | | | | |
| Importance | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 11 (36.7%) | 19 (63.3%) |
| Presence | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 21 (70.0%) | 9 (30.0%) |

Refer to Table 4.8 in page 52, all the academic staff ranked the importance of the e-mail system and 23 (73.3%) perceived its presence. In general, this benchmark was important and present in the e-learning environment.

All the academic staff also ranked the importance and the presence of the constructive and non-threatening feedback to student. Hence, it was an important and present benchmark as perceived by the academic staff.

**Table 4.9:** **Mean and Standard Deviation of the Academic Staff's Perception of the Teaching / Learning Process Benchmarks. (ranking according to the importance)**

| Teaching / Learning Process Quality Benchmarks | Importance | Presence |
|---|---|---|
| Feedback to students is provided in the manner that is constructive and non-threatening. | | |
| Mean | 4.63 | 4.30 |
| Standard Deviation | .49 | .47 |
| Student's interaction with the academic staff is facilitated through a variety of ways. | | |
| Mean | 4.53 | 3.87 |
| Standard Deviation | .78 | .43 |
| E-mail system to encourage students to work with each other and academic staff. | | |
| Mean | 4.53 | 3.87 |
| Standard Deviation | .51 | .63 |
| Feedback to student assignments and questions is provided in a timely manner. | | |
| Mean | 4.03 | 3.63 |
| Standard Deviation | .49 | .61 |
| Each module required students to be involved in the analysis and synthesis as part of the course objectives. | | |
| Mean | 3.87 | 1.93 |
| Standard Deviation | .51 | .69 |

Table 4.9 indicated that quality benchmarks which was ranked the most important in the teaching / learning process categories based on the academic staff's perception was feedback to students is provided in the manner that is constructive and non-threatening with the mean score of 4.63. Two quality benchmarks with the same ranking of importance were student's interaction with the academic staff is facilitated through a variety of ways and e-

mail system to encourage students to work with each other and academic staff, both with mean score of 4.53. Feedback to student assignments and questions was provided in a timely manner ranked the third with the mean score of 4.03. The least important quality benchmark was the inclusion of analysis and synthesis as part of the course objectives with the mean score of 3.87.

The benchmarks with the highest degree of presence in these branches was the constructive and non-threatening feedback system provided to students with the mean score of 4.30 The next two benchmarks were with the second degree of presence were the student's interaction with the academic staff is facilitated through a variety of ways and e-mail system with the mean score of 3.87. The presence of the feedback to student assignments and questions is provided in a timely manner benchmark ranked the fourth, with the mean score of 3.63. The least present benchmark in these branches was the inclusion of analysis and synthesis as part of the course objectives.with the mean score of 1.93.

### 4.3.4 Academic Staff's Perception of the Course Structure Benchmarks.

Table 4.10 in page 55, showed 28 (93.3%) of the academic staff perceived the importance of sufficient library resources for students. However, 14 (46.7%) of them disagreed with the presence of this benchmark. 16 (53.3%) of the academic staff was unsure of its presence. As a summary, this benchmark was important but academic staff was unsure of its presence in the e-learning environment.

Refer to Table 4.10 below, clearly stated learning outcomes for each courses was perceived as important by 24 (80%) of the academic staff. Only 5 (16.7%) agreed on its presence. 24 (16.7%) of them was unsure of its presence. In general, this benchmark was perceived important but academic staff was unsure of its presence in the e-learning environment of the selected branches.

**Table 4.10:** **Frequency and Percentage of Academic Staff's Perception of Importance and Presence of Course Structure Benchmarks.**

| Course Structure Quality Benchmarks | Response Score | | | | |
|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** |
| Sufficient library resources are made available to students. | | | | | |
| Importance | 0 (0.0%) | 0 (0.0%) | 2 (6.7%) | 16 (53.3%) | 12 (40.0%) |
| Presence | 0 (0.0%) | 14 (46.7%) | 16 (53.3%) | 0 (0.0%) | 0 (0.0%) |
| Learning outcomes for each course are summarised in a clearly written, straightforward statement. | | | | | |
| Importance | 0 (0.0%) | 0 (0.0%) | 6 (20.0%) | 23 (76.7%) | 1 (3.3%) |
| Presence | 0 (0.0%) | 1 (3.3%) | 24 (80.0%) | 5 (16.7%) | 0 (0.0%) |
| Specific expectations are set for students regarding time needed to completion the assignment. | | | | | |
| Importance | 0 (0.0%) | 0 (0.0%) | 1 (3.3%) | 27 (90.0%) | 2 (6.7%) |
| Presence | 0 (0.0%) | 1 (3.3%) | 28 (93.3%) | 1 (3.3%) | 0 (0.0%) |
| Students are provided with course information that outlines the course objectives, concepts and learning outcomes via student's handbook. | | | | | |
| Importance | 0 (0.0%) | 0 (0.0%) | 1 (3.3%) | 24 (80.0%) | 5 (16.7%) |
| Presence | 0 (0.0%) | 0 (0.0%) | 1 (3.3%) | 15 (50.0%) | 14 (46.7%) |
| Academic staff is to grade all student's assignment with a certain time period. | | | | | |
| Importance | 0 (0.0%) | 0 (0.0%) | 5 (16.7%) | 25 (83.3%) | 0 (0.0%) |
| Presence | 0 (0.0%) | 0 (0.0% | 1 (3.3%) | 25 (83.3%) | 4 (13.3%) |

From Table 4.10 in page 55, 29 (96.7%) of the academic staff perceived the importance of specific expectation for students regarding time to complete the assignment. However 28 (93.3%) of them were unsure of the presence of this benchmark. Therefore, most academic staff perceived this benchmark as important but was unsure of its presence.

Most of the academic staff (more than 95%) perceived the importance and presence of course information provided to students. Hence, this benchmark was regarded as important and present in the e-learning environment.

More than 80% of the academic staff perceived the important and present of grading all students' assignment on time. As a summary, this benchmark was important and present in the e-learning environment of the selected branches.

**Table 4.11:** Mean and Standard Deviation of the Academic Staff's Perception of the Course Structure Benchmarks.
(ranking according to the importance)

| Course Structure Quality Benchmarks | Importance | Presence |
|---|---|---|
| Sufficient library resources are made available to students. | | |
| Mean | 4.33 | 2.53 |
| Standard Deviation | .61 | .51 |
| Students are provided with course information that outlines the course objectives, concepts and learning outcomes via student's handbook. | | |
| Mean | 4.13 | 4.43 |
| Standard Deviation | .43 | .57 |
| Specific expectations are set for students regarding time needed to completion the assignment. | | |
| Mean | 4.03 | 4.00 |
| Standard Deviation | .32 | .26 |
| Learning outcomes for each course are summarised in a clearly written, straightforward statement. | | |
| Mean | 3.83 | 3.13 |
| Standard Deviation | .46 | .43 |
| Academic staff is to grade all student's assignment with a certain time period. | | |
| Mean | 3.83 | 4.10 |
| Standard Deviation | .38 | .40 |

From Table 4.11 in page 56, it showed that academic staff perceived sufficient library resources benchmark was the most important benchmark, with the mean score of 4.33. *The second important benchmark perceived by the academic staff was the course* outlines provided to students, with the mean score of 4.13. Setting the specific expectation for students was perceived as the third important benchmark, with the mean score of 4.03. Two least important benchmarks perceived were summary of learning outcomes in a straightforward statement and academic staff to grade the student's assignment on preset date with the mean score of 3.83.

The benchmark with the highest degree of presence in these branches was course outlines provided to students, with the mean score of 4.43. The second high degree of presence benchmark was academic staff to grade the student's assignment on preset date, with the mean score of 4.10. Setting a specific expectation for students was the third ranked benchmark that was present, with the mean score of 4.00. The second least evident benchmark was the summary of learning outcomes in a straightforward statement with the mean score of 3.13. The least present benchmark in the branches was the sufficient library resources, with the mean score of 2.53.

### 4.3.5 Academic Staff's Perception of the Student Support Benchmarks.

Table 4.12 in page 58, showed 26 (86.7%) of the academic staff perceived the importance of assistance provided to students. However, 4 (13.3%) of the academic staff disagreed with the presence of this benchmark. 17 (56.7%) were unsure of its presence. In general, this benchmark was regarded important but academic staff was unsure of its presence in the e-learning environment.

**Table 4.12:** Frequency and Percentage of Academic Staff's Perception of Importance and Presence of Student Support Benchmarks.

| Student Support Quality Benchmarks | Response Score | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Students can obtain assistance to help them use electronically accessed data easily. | | | | | |
|     Importance | 0 (0.0%) | 0 (0.0%) | 4 (13.3%) | 18 (60.0%) | 8 (26.7%) |
|     Presence | 0 (0.0%) | 4 (13.3%) | 17 (56.7%) | 9 (30.0%) | 0 (0.0%) |
| Students are provided with hands-on training and information to help them in accessing material through other sources i.e. Internet. | | | | | |
|     Importance | 0 (0.0%) | 1 (3.3%) | 26 (86.7%) | 3 (10.0%) | 0 (0.0%) |
|     Presence | 2 (6.7%) | 7 (23.3%) | 18 (60.0%) | 3 (10.0%) | 0 (0.0%) |
| Questions directed to student service personnel are answered accurately and timely. | | | | | |
|     Importance | 0 (0.0%) | 0 (0.0%) | 10 (33.3%) | 20 (66.7%) | 0 (0.0%) |
|     Presence | 0 (0.0%) | 15 (50.0%) | 15 (50.0%) | 0 (0.0%) | 0 (0.0%) |
| A structured system to address student's complaints. | | | | | |
|     Importance | 0 (0.0%) | 0 (0.0%) | 13 (43.3%) | 17 (56.7%) | 0 (0.0%) |
|     Presence | 5 (16.7%) | 18 (60.0%) | 7 (23.3%) | 0 (0.0%) | 0 (0.0%) |
| Written information about the type of services provided via student's handbook. | | | | | |
|     Importance | 1 (3.3%) | 6 (20.0%) | 16 (53.3%) | 7 (23.3%) | 0 (0.0%) |
|     Presence | 0 (0.0%) | 4 (13.3%) | 15 (50.0%) | 11 (36.7%) | 0 (0.0%) |

26 (86.7%) of the academic staff was unsure of the importance of the providing hands-on to help students in accessing online material. 18 (60%) of them were unsure of its presence. As a summary, the academic staff was unsure of its importance and presence.

Refer to Table 4.12 in page 58, the benchmark of queries to student service personnel to be answered on time was ranked as important by 20 (66.7%) of the academic staff. 15 (50%) of them disagreed on the presence of this benchmark and 15 (50%) were unsure of

its presence. Therefore, this benchmark was important to the academic staff but its presence was either disagreed or unsure.

17 (56.7%) of academic staff perceived the structured system to address student's complaints was important. 13 (43.3%) of them were unsure of its importance. 23 (76.7%) of the academic staff was disagreed on the presence of this benchmark. In general, this benchmark was ranked as important for majority of the academic staff and also disagreed by most of them.

Only 7 (23.3%) of the academic staff perceived the importance of the written information on type of services provided via student's handbook. 16 (53.3%) of them were unsure of its important and 7 (23.3%) perceived this benchmark not important. 11 (36.7%) of the academic staff perceived the presence of this benchmark. Half of the academic staff was unsure of its presence. Therefore, this benchmark was regarded irrelevant as majority of the academic staff was unsure of its importance and presence.

Refer to Table 4.13 in page 60, academic staff perceived the most important benchmark in the student support categories was the assistance obtained by students electronically, with the mean score of 4.13. Prompt response to student's query was ranked the second most important benchmark, with the mean score of 3.67. Structured system to address student's complaints benchmark was ranked the fourth important benchmark, with the mean score of 3.57. The second least importance benchmark ranked by the academic staff was providing hands-on training to students in accessing their material, with the mean score of 3.07. The least important benchmark perceived by the academic staff was written information about type of information provided, with the mean score of 2.97. The relative

high difference in the standard deviation between the importance and the presence represented that there were wide difference between the academic staff's perception in these benchmarks i.e. hands-on training for students.

**Table 4.13:** **Mean and Standard Deviation of the Academic Staff's Perception of the Student Support Benchmarks. (ranking according to the importance)**

| Student Support Quality Benchmarks | Importance | Presence |
|---|---|---|
| Students can obtain assistance to help them use electronically accessed data easily. | | |
| Mean | 4.13 | 3.17 |
| Standard Deviation | .63 | .65 |
| Questions directed to student service personnel are answered accurately and timely. | | |
| Mean | 3.67 | 2.50 |
| Standard Deviation | .48 | .51 |
| A structured system to address student's complaints. | | |
| Mean | 3.57 | 2.07 |
| Standard deviation | .50 | .64 |
| Students are provided with hands-on training and information to help them in accessing material through other sources i.e. Internet. | | |
| Mean | 3.07 | 2.73 |
| Standard Deviation | .37 | .74 |
| Written information about the type of services provided via student's handbook. | | |
| Mean | 2.97 | 3.23 |
| Standard Deviation | .76 | .68 |

Table 4.13 above, indicated the most presence benchmark in these branches was written information about type of information provided, with the mean score of 3.23. The second high, degree of presence benchmark was assistance obtained by students electronically, with the mean score of 3.17. The third most evident benchmark was hands-on training to students in accessing their material, with the mean score of 2.73. The second least presence benchmark in these branches was the prompt response to student's query, with the mean score of 2.50. The least presence benchmarks was structured system to address student's complaints, with the mean score of 2.07.

### 4.3.6 Academic Staff's Perception of the Academic Support Benchmarks.

**Table 4.14:** Frequency and Percentage of Academic Staff's Perception of Importance and Presence of Academic Support Benchmarks.

| Academic Support Quality Benchmarks | Response Score | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Training and assistance is provided to academic staff concerned throughout the progression of e-learning courses. | | | | | |
| Importance | 0 (0.0%) | 0 (0.0%) | 11 (36.7%) | 17 (56.7%) | 2 (6.7%) |
| Presence | 0 (0.0%) | 2 (6.7%) | 10 (33.3%) | 13 (43.3%) | 5 (16.7%) |
| Academic staff is assisted in the transition from classroom teaching to e-learning instruction. | | | | | |
| Importance | 0 (0.0%) | 1 (3.3%) | 10 (33.3%) | 14 (46.7%) | 5 (16.7%) |
| Presence | 0 (0.0%) | 11 (36.7%) | 16 (53.3%) | 3 (10.0%) | 0 (0.0%) |
| Academic staff is provided with written instructions on deal with issues arising from the students. | | | | | |
| Importance | 0 (0.0%) | 6 (20.0%) | 18 (60.0%) | 6 (20.0%) | 0 (0.0%) |
| Presence | 0 (0.0%) | 17 (56.7%) | 11 (36.7%) | 2 (6.7%) | 0 (0.0%) |
| Technical assistance is available for academic staff at all time. | | | | | |
| Importance | 0 (0.0%) | 1 (3.3%) | 14 (46.7%) | 13 (43.3%) | 2 (6.7%) |
| Presence | 2 (6.7%) | 14 (46.7%) | 14 (46.7%) | 0 (0.0%) | 0 (0.0%) |
| Peer mentoring or any other form of support is available to academic staff. | | | | | |
| Importance | 0 (0.0%) | 0 (0.0%) | 11 (36.7%) | 14 (46.7%) | 5 (16.7%) |
| Presence | 0 (0.0%) | 5 (16.7%) | 14 (46.7%) | 10 (33.3%) | 1 (3.3%) |

Table 4.14 indicated that 19 (63.4%) of the academic staff perceived the importance of training and assistance throughout the e-learning courses. 18 (60%) of them perceived the presence of this benchmark. Therefore, this benchmark was important to the academic staff and present in the e-learning environment.

Refer to Table 4.14 in page 61, the benchmark of assistance to be provided to academic staff from classroom teaching to e-learning instruction was ranked as important by 19 (63.4%) of the academic staff. However, 11 (36.7%) of them disagreed of its presence. 16 (53.3%) of them was unsure of its presence. Therefore, this benchmark was important to academic staff but its presence was disagreed or unsure.

18 (60%) of the academic staff were unsure of the importance of the written instruction on dealing with student's issue benchmark. 17 (56.7%) of them disagreed on the presence of this benchmark in the e-learning environment. In general, academic staff was unsure of the importance and disagreed on the presence of this benchmark in the environment.

14 (46.7%) of the academic staff was unsure of the importance and presence of the technical assistance for them. 13 (43.3%) of them ranked this benchmark as important and only 2 (6.7%) ranked it as very important. 1 (3.3%) of them ranked this benchmark as not important. 14 (46.7%) disagreed and 2 (6.7%) were strongly disagreed of the presence of this benchmark. Hence, this benchmark was important to academic staff but they disagreed on its presence in the e-learning environment.

The peer mentoring benchmark was ranked as important by 19 (63.4%) of the academic staff. However, 11 (36.6%) of them agreed on the presence of this benchmark. 14 (46.7%) of them were unsure of its presence. Therefore, this benchmark was important but the academic staff was unsure of its presence in the e-learning environment.

**Table 4.15:** **Mean and Standard Deviation of the Academic Staff's Perception of the Academic Support Benchmarks. (ranking according to the importance)**

| Academic Support Quality Benchmarks | Importance | Presence |
|---|---|---|
| Peer mentoring or any other form of support is available to academic staff. | | |
| Mean | 3.80 | 3.23 |
| Standard Deviation | .71 | .77 |
| Academic staff is assisted in the transition from classroom teaching to e-learning instruction. | | |
| Mean | 3.77 | 2.73 |
| Standard Deviation | .77 | .64 |
| Training and assistance is provided to academic staff concerned throughout the progression of e-learning courses. | | |
| Mean | 3.70 | 3.70 |
| Standard Deviation | .60 | .84 |
| Technical assistance is available for academic staff at all time. | | |
| Mean | 3.53 | 2.40 |
| Standard Deviation | .68 | .62 |
| Academic staff is provided with written instructions on deal with issues arising from the students. | | |
| Mean | 3.00 | 2.50 |
| Standard Deviation | .64 | .63 |

Table 4.15 indicated that the most important benchmark perceived by the academic staff in the academic support categories was peer mentoring or any other form of support is available to academic staff, with the mean score of 3.80. Assisting academic staff shifting from the classroom teaching to e-learning instruction was ranked the second most important benchmark, with the mean score of 3.77. Academic staff ranked training and assistance provided to academic staff concerned throughout the progression of e-learning courses as the third important benchmark, with the mean score of 3.7. The second least important benchmark ranked by the academic staff was technical assistance for academic staff, with the mean score of 3.53. The least important benchmark perceived by the academic staff was the written instructions provided on deal with issues arising from students with the mean score of 3.0.

The highest degree of benchmark, which present in these branches was the training and assistance provided to academic staff concerned throughout the progression of e-learning courses, with the mean score of 3.70. The second more evident benchmark was peer mentoring or any other form of support is available to academic staff with the mean score of 3.23. The presence of assistance to academic staff in the transition from classroom teaching to e-learning instruction benchmark ranked the third, with the mean score of 2.73. The second least present benchmark in these branches was written instruction was provided to academic staff on deal with issues arising from the students, with the mean score of 2.5. The least present benchmark was technical assistance made available for academic staff at all time, with the mean score of 2.4.

## 4.3.7  Academic Staff's Perception of the Evaluation and Assessment Benchmarks.

Table 4.16 in page 65, showed 24 (80%) of the academic staff perceived the importance of the evaluation of effectiveness using various method. 14 (46.7%) of them were either unsure or agreed of the presence of this benchmark. Hence, this benchmark was important to the academic staff. Half of them were either unsure or agreed on the presence of this benchmark.

Majority (more than 80%) of the academic staff ranked the importance and presence of the evaluation process to improve teaching and learning process benchmark. Therefore, this benchmark was important to the academic staff and presence in the e-learning environment.

**Table 4.16:** **Frequency and Percentage of Academic Staff's Perception of Importance and Presence of Evaluation and Assessment Benchmarks.**

| Evaluation and Assessment | Response Score | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Effectiveness of any courses is evaluated using more than one method. | | | | | |
|     Importance | 0 (0.0%) | 0 (0.0%) | 6 (20.0%) | 19 (63.3%) | 5 (16.7%) |
|     Presence | 0 (0.0%) | 2 (6.67%) | 14 (46.7%) | 14 (46.7%) | 0 (0.0%) |
| Evaluation process is aimed to improve the teaching and learning process. | | | | | |
|     Importance | 0 (0.0%) | 0 (0.0%) | 3 (10.0%) | 14 (46.7%) | 13 (43.3%) |
|     Presence | 0 (0.0%) | 0 (0.0%) | 5 (16.7%) | 19 (63.3%) | 6 (20.0%) |
| Specific standards are in place to improve student's learning objectives. | | | | | |
|     Importance | 0 (0.0%) | 0 (0.0%) | 10 (33.3%) | 13 (43.3%) | 7 (23.3%) |
|     Presence | 0 (0.0%) | 0 (0.0%) | 10 (33.3%) | 13 (43.3%) | 7 (23.3%) |
| Intended learning objectives of any courses are reviewed regularly to ensure utility and appropriateness in the current market. | | | | | |
|     Importance | 0 (0.0%) | 0 (0.0%) | 3 (10.0%) | 16 (53.3%) | 11 (36.7%) |
|     Presence | 5 (16.7%) | 14 (46.7%) | 8 (26.7%) | 3 (10.0%) | 0 (0.0%) |
| Information on student's enrolment, costs and innovative uses of technology are used to evaluate the effectiveness of the courses. | | | | | |
|     Importance | 0 (0.0%) | 0 (0.0%) | 10 (33.3%) | 13 (43.3%) | 7 (23.3%) |
|     Presence | 0 (0.0%) | 5 (16.7%) | 20 (66.7%) | 5 (16.7%) | 0 (0.0%) |

20 (66.6%) of the academic staff perceived the importance of placing specific standard to improve student's learning objectives and this was presence in the e-learning environment. 27 (90%) of the academic staff perceived the importance of reviewing courses to ensure utility and approaches in current market. 19 (63.4%) of them disagreed on

the presence of this benchmark. Hence, this benchmark was important to the academic staff

but its presence was disagreed in the e-learning environment.

Refer to Table 4.16 in page 65, 20 (76.6%) of the academic staff perceived the

importance of information such as student's enrolment and others to evaluate the

effectiveness of the courses. 20 (66.7%) of them were unsure of the presence of this

benchmark. Therefore, this benchmark was important to academic staff but they were

unsure of the presence of it in the e-learning environment.

**Table 4.17:** **Mean and Standard Deviation of the Academic Staff's Perception of the Evaluation and Assessment Benchmarks. (ranking according to the importance)**

| Evaluation and Assessment | Importance | Presence |
|---|---|---|
| Evaluation process is aimed to improve the teaching and learning process. | | |
| Mean | 4.33 | 4.03 |
| Standard Deviation | .66 | .61 |
| Intended learning objectives of any courses are reviewed regularly to ensure utility and appropriateness in the current market. | | |
| Mean | 4.27 | 2.30 |
| Standard Deviation | .64 | .88 |
| Effectiveness of any courses is evaluated using more than one method. | | |
| Mean | 3.97 | .61 |
| Standard Deviation | 3.40 | .62 |
| Specific standards are in place to improve student's learning objectives. | | |
| Mean | 3.90 | 3.90 |
| Standard Deviation | .76 | .76 |
| Information on student's enrolment, costs and innovative uses of technology are used to evaluate the effectiveness of the courses. | | |
| Mean | 3.90 | 3.00 |
| Standard Deviation | .76 | .59 |

The most important benchmark perceived by the academic staff was the evaluation

process, which aimed to improve teaching and learning, with the mean score of 4.33. The

second-important benchmark was learning objective was reviewed regularly to ensure the

utility and appropriateness in the current market, with the mean score of 4.27. Effectiveness

of any courses was evaluated using more than one method was ranked the third important benchmark, with the mean score of 3.97. Two benchmark i.e. specific standards set to improve student's learning objectives and information used to evaluate the effectiveness of the courses were ranked the fourth important benchmark, with the mean score of 3.9.

Evaluation process, which aimed to improve the teaching and learning process, was perceived as the most present benchmark, with the mean score of 4.03. The second most present benchmark ranked by the academic staff was specific standards set to improve student's learning objectives, with the mean score of 3.90. Evaluation on the effectiveness of courses was perceived to be the third present benchmark, with the mean score of 3.40 Academic staff ranked the fourth more present benchmark was information used to evaluate the effectiveness of the courses, with the mean score of 3.0. The least present benchmark in these benchmark as perceived by the academic staff was learning objectives of any course were reviewed regularly to ensure utility and appropriateness in the current market, with the mean score of 2.3. The relative high difference in the standard deviation between the importance and the presence represented that there were wide difference between the academic staff's perception in these benchmarks i.e. intended learning objectives to be reviewed regularly and use of information on student to evaluate the effectiveness of the courses.

## 4.4 Differences in Academic Staff Perception in the Importance of Benchmark.

This section were related to the third research question i.e. ' what are the difference in academic perception regarding the importance of the benchmarks in term of the qualification, job function and location of the branch?'

### 4.4.1 Differences in the Importance of Benchmarks in Term of Qualification.

Table 4.18, showed the academic staff perception of the importance of the benchmark. Regardless of the academic staff's qualification, they perceived the importance of the management support and teaching / learning process. This was indicated by the small difference in mean score. However, the academic staff with Bachelor degree perceived more benchmarks as important namely coursework development, student support, academic support and lastly evaluation and assessment. It indicated by the higher mean score from the academic staff who had Bachelor degree.

**Table 4.18    Difference in the Importance of Benchmarks in Term of Qualification**

| | Categories | | | | | | |
|---|---|---|---|---|---|---|---|
| | Management Support | Course Development | Teaching / Learning Process | Course Structure | Student Support | Academic Support | Evaluation and Assessment |
| Qualification | | | | | | | |
| Master (n =16) | | | | | | | |
| Mean | 3.96 | 3.50 | 4.36 | 4.06 | 3.44 | 3.50 | 4.06 |
| Std. Dev. | .22 | .25 | .31 | .17 | .20 | .31 | .11 |
| | | | | | | | |
| Bachelor (n =14) | | | | | | | |
| Mean | 3.91 | 3.64 | 4.27 | 4.00 | 3.53 | 3.63 | 4.09 |
| Std. Dev. | .37 | .14 | .30 | .24 | .29 | .23 | .38 |
| | | | | | | | |

From the Table 4.19 in page 69, there was no significant difference between the qualification and the importance of the benchmark. These were indicated by the larger significant value from each category. (i.e. significant value > 0.05). In general, regardless of the qualification of the academic staff, there was no difference in their perception on the importance of the quality benchmarks.

**Table 4.19:** t-value for The Difference on the Importance of Benchmarks by Qualification

| Categories | t-value | Degree of freedom | Sig. value (2 tailed) |
|---|---|---|---|
| Management Support | .20 | 28 | .66 |
| Coursework Development | 3.51 | 28 | .07 |
| Teaching / Learning Process | .66 | 28 | .42 |
| Course Structure | .69 | 28 | .41 |
| Student Support | 1.04 | 28 | .32 |
| Academic Support | 1.61 | 28 | .22 |
| Evaluation and Assessment | .03 | 28 | .88 |

Significance value at p=0.05

### 4.4.2 Differences in the Importance of Benchmarks in Term of Job Function.

**Table 4.20:** Difference in the Importance of Benchmarks in Term of Job Function

| | Categories | | | | | | |
|---|---|---|---|---|---|---|---|
| | Management Support | Course Development | Teaching / Learning Process | Course Structure | Student Support | Academic Support | Evaluation and Assessment |
| **Job Function** | | | | | | | |
| Head (n=3) | | | | | | | |
| Mean | 3.87 | 3.47 | 4.07 | 3.93 | 3.40 | 3.80 | 4.07 |
| Std. Dev. | .12 | .31 | .42 | .23 | .35 | .20 | .42 |
| Lecturer (n =21) | | | | | | | |
| Mean | 4.01 | 3.62 | 4.40 | 4.05 | 3.50 | 3.50 | 4.00 |
| Std. Dev. | .26 | .21 | .24 | .19 | .25 | .29 | .41 |
| Coordinator (n = 6) | | | | | | | |
| Mean | 3.73 | 3.43 | 4.17 | 4.03 | 3.43 | 3.63 | 4.07 |
| Std. Dev. | .39 | .15 | .39 | .27 | .20 | .23 | .40 |

Table 4.20, showed academic head perceived the quality benchmark as least important. This was indicated by their lowest mean score expect for management support and academic support. Lecturer perceived most of the quality benchmarks as important. This indicated by the highest mean score by the lecturer's categories. Coordinators

perception on the importance of the benchmarks fell in between the academic head and the lecturers.

**Table 4.21:** **t-value for The Difference on the Importance of Benchmarks By Job Function**

| Categories | t-value | Degree of freedom | Sig. value (2 tailed) |
|---|---|---|---|
| Management Support | 2.32 | 27 | .11 |
| Coursework Development | 2.24 | 27 | .13 |
| Teaching / Learning Process | 2.85 | 27 | .07 |
| Course Structure | .40 | 27 | .68 |
| Student Support | .36 | 27 | .70 |
| Academic Support | 1.81 | 27 | .18 |
| Evaluation and Assessment | 1.27 | 27 | .30 |

Significance value at p=0.05

From the Table 4.21 above, there was no significant difference between the job function and the importance of the benchmark. These were indicated by the larger significant value from each category. (i.e. significant value > 0.05). In general, regardless of the job function of the academic staff, there was no difference in their perception on the importance of thè quality benchmarks.

### 4.4.3 Differences in the Importance of Benchmarks in Term of Branch's Location

**Table 4.22**      Difference in the Importance of Benchmarks in Term of Branch's Location

| Categories | Location | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| | Kuala Lumpur (n =10) | | Melaka (n =10) | | Petaling Jaya (n =10) | |
| | Mean | Std. Dev. | Mean | Std. Dev. | Mean | Std. Dev. |
| Management Support | 4.02 | .24 | 4.00 | .35 | 3.80 | .25 |
| Coursework Development | 3.48 | .19 | 3.60 | .21 | 3.62 | .22 |
| Teaching / Learning Process | 4.46 | .19 | 4.38 | .18 | 4.12 | .40 |
| Course Structure | 4.14 | .16 | 4.06 | .19 | 3.90 | .19 |
| Student Support | 3.40 | .21 | 3.66 | .27 | 3.38 | .15 |
| Academic Support | 3.43 | .34 | 3.50 | .19 | 3.70 | .25 |
| Evaluation and Assessment | 3.92 | .37 | 4.28 | .41 | 4.02 | .36 |

Table 4.22 showed a mixed perception of the academic staff from different branches. Academic staff from Kuala Lumpur branch perceived management support, teaching / learning process and course structure benchmark as important. Melaka's academic staff perceived student support and evaluation and assessment benchmark as important. Lastly, the academic staff from Petaling Jaya perceived course development and academic support benchmarks as important. All these were indicated by the higher mean score.

Table 4.23 showed that there was significant difference in three quality benchmarks in term of the location of the branches. The difference showed were in the teaching / learning process, course structure and student support benchmarks. These were indicated by the smaller significant value ($< 0.05$). In general, there was difference in academic staff perception in quality benchmarks, namely teaching / learning process, course structure and student support benchmarks in term of the location of the branches.

**Table 4.23:** t-value for The Difference on the Importance of Benchmarks By Branch's Location.

| Categories | t-value | Degree of freedom | Sig. value (2 tailed) |
|---|---|---|---|
| Management Support | 1.82 | 27 | .18 |
| Coursework Development | 1.24 | 27 | .31 |
| Teaching / Learning Process | 4.15 | 27 | .03 |
| Course Structure | 4.44 | 27 | .02 |
| Student Support | 5.31 | 27 | .01 |
| Academic Support | 2.02 | 27 | .15 |
| Evaluation and Assessment | 2.39 | 27 | .11 |

Significance value at p=0.05

## 4.5 Analysis on the Additional Feature in Quality Benchmarks

This section attempted to answer the research question 4 i.e. 'what are additional benchmarks suggested by academic team that can contribute to the quality assurance of e-learning?'

Based on the response obtained from the open-ended question of the survey, it would be very difficult to conclude that there is any additional benchmarks that can be improved the quality assurance of e-learning. This was due to most of the academic staff did not answer this question.