



AN EMPIRICAL STUDY OF CRITICAL PERFORMANCE INDICATORS (PIs) FOR STUDENTS' COURSE EVALUATION AND INSTRUCTIONAL QUALITY IN HIGHER EDUCATION INSTITUTIONS OF PAKISTAN

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ABSTRACT

The main argument of this paper springs from an understanding that quality performance measurement tools and underlying performance indicators, as part of University's quality assurance activities, must be conceived as relevant and provide clear interpretation of the way Quality Assurance Department evaluates the critical importance of various dimensions of quality assurance in higher education. Overall quality of instruction is analyzed by means of index for CQPI (Critical Quality Performance Index) in Student Course Evaluation PROFORMA-2 of HEC Quality Assurance Program for Higher Education. The data consisted of (17,000) assessment sheets completed by students from different departments at the Bahauddin Zakariya University Multan, Pakistan. Each assessment sheet contained (18) variables. A Critical Quality Performance Indices developed for overall university as well as for individual faculty of six faculties included in the study sample. Some of the evaluation items relate directly to the course or teacher and others relate to the interaction between the course or teacher and the students within different context of faculty. However, one common and significant dimension of instructional quality found to be the subject mastery and preparation of lecture on the part of instructor. Distinguishing between these categories could be helpful in identifying or correcting bias in student evaluations by analyzing the quality of instruction as multidimensional phenomenon.

Type: Research Article

Key Words: Quality in Higher Education, Quality Performance Measurement, Instructional Quality, Higher Education in Pakistan

INTRODUCTION

Because of an increasing quality concern in higher education, much attention has been paid to the development of procedures and instruments providing information about the quality of teaching. Important stakeholders in this process are the 'customers' of higher education, namely the students. Since the early 1920s instruments for student evaluation of teaching have been constructed (Wachtel, 1998) , aimed at giving students the opportunity to share their experiences and appreciation concerning the courses they attended with their teachers. Most researchers believe that student evaluations of teacher performance provide evaluators with valid, reliable and valuable data with respect to the quality of teaching (Centra, 1977 ; Penny, 2003). There is now an extensive research literature on the use of questionnaires in order to monitor students' evaluations of teaching in higher education.

Student's ratings of teaching performance have relatively short history in Pakistan, since they were introduced after the democratization of Pakistani universities in the beginning of year 2002. Pakistani universities, particularly in the public sector, shifted then from traditional model to modernized style implying strong teaching and research demands for academic institutions and staff, since it combined to opening of higher education to student of broader social and educational background and a renewed stress on research in the context of strong structural constraints. In the teaching domain, this change led to mass educational system, with very large and diverse class groups in most of the undergraduate and postgraduate studies. This situation reinforced traditional teaching customs, leaving conventional lecturing oriented to 'knowledge transmission' (Kember & Gow, 1994) as the main teaching method.

In this context, student surveys of teaching performance were launched, soon becoming an evaluation standard for many Pakistani public sector universities. Their implementation resulted from both the adaptation of some foreign instruments and the development of indigenous instruments—mainly for formative purpose. Since these surveys aimed mainly at improving individual skills, there is still a need to enhance their formative function from the perspective of the professional development of academic staff (de Miguel, 2003; Rodriguez, 2003).

An authoritative and very comprehensive review of this literature by Marsh (1987) concluded that “student ratings are clearly multidimensional, quite reliable, reasonably valid, relatively uncontaminated by many variables often seen as sources of potential bias, and are seen to be useful by students, faculty, and administrators (p. 369).” In fact, most of the questionnaires that have been used to date have focused upon students' evaluations of individual teachers or course units; as Marsh pointed out, these can yield a considerable amount of information that is “useful for feedback to faculty, useful for personnel decisions, useful to students in the selection of courses, and useful for the study of teaching (19. 369).”

Marsh (1987) also emphasized that the “one of the key purposes of student evaluations of teaching is providing feedback that might lead to better teaching skills.” However, Ballantyne et al. (2000) cautioned that when student evaluations are used to improve teaching quality, much attention must be given to correct information on the use, procedure and results of these evaluations. By focusing the key purpose of students' evaluation of instructional quality as identified by Marsh (1987) i.e. “obtaining to improve quality of teaching” and emphasizing on appropriate use of context specific information for improving quality of instruction, we make a contribution to the questions dealing with the validity and reliability of both instruments and student opinions across various faculties and their respective departments. Consulting the literature, we notice hardly any research revalidating evaluation instruments measuring teacher effectiveness. However, frequent revalidation of evaluation instruments seems necessary because of the differing conditions and educational context of each faculty and their respective departments. Comparing the educational situation across various faculty/disciplines, we can notice changing priorities of students with respect to instructional quality parameters.

The main purpose of this paper is to identify critical performance indicators (PI) for instructional quality across different faculties and their respective departments and to understand the relative difference in students' evaluation of the dimensions of instructional quality across different departments of six (6) faculties of Bahauddin Zakariya University Multan. Major areas of interest in this study would be identification of key performance indicators for effective instructional quality in selected faculties like Faculty of Science & Agriculture, Faculty of

Pharmacy, Faculty of Islamic Studies and Languages, Faculty of Commerce, Law and Business Administration, Faculty of Arts & Social Sciences, and Faculty of Veterinary Sciences. Secondly, it develops the CP index based on the importance of the criticality of these performance indicators (PI) and to classify these indices in descending order in three tiers. The relationship among these three tiers of performance indicators and instructional quality is investigated. In this study, such relationship is investigated in six different types of faculties, which are different in terms of nature of the discipline, subject matter, requirement of professional as well as academic skills on the part of instructors, nature of facilities available for students, nature of practical learning and administrative style. The results of this study will be useful for the administrative personnel of the university as well as for the heads of departments in each faculty to collaboratively decide on how to focus on improving key performance areas of instructional quality identified and prioritized in Critical Performance Index (CPI) of each department of selected faculties.

Rest of the paper is organized as follows. Section 2 gives the literature review and an overview of previous studies. Section 3 presents the process of data collection and research methodology. This will be followed by statistical procedures, the results and conclusions.

LITERATURE REVIEW

Research on student evaluations of teaching and the factors which may affect those; dates back to the 1920s. Spencer and Flyr (1992), report that the first teacher rating scale was published in 1915. Importance of student rating for improving quality of learning in higher education is also supported by many of the researchers in the past. Cohen (1980); Marsh & Roche (1993), Menges (1991) and Overall & Marsh (1979) supported that the feedback from student ratings can help improve instruction. However, we note that some authors who are supportive of the use of student ratings nonetheless argue that they alone will not automatically improve teaching and sustain that improvement without other types of feedback (Seldin, 1989; Tiberius et al, 1989; Wilson, 1986). L'Hommedieu et al, (1990) argue that methodological weaknesses in existing studies generally satisfy rather than exaggerate effects of feedback, i.e. the effect of feedback on teaching improvement may be even greater than that posited in the literature. Aleamoni, (1981) and McKeachie (1979) argued that the use of student ratings increases the likelihood that excellence in teaching will be recognized and rewarded. Student ratings have been shown to be positively correlated with student learning and achievement, i.e. students rate most highly those instructors from whom they have learned the most (Aleamoni & Hexner, 1980; Centra, 1977; Cohen, 1981; McKeachie, 1990; Murray, et al, 1990)

Measure of Criticality for Instructional Quality Performance Indicators

For the past century, students' relationship to their schools and teachers has been one of the most widespread topics of educational research. Cashin (1988) cites over 1300 separate studies on student evaluations of teacher. Centra (1993) and Braskamp and Ory (1994) identified five factors commonly found in students rating forms. These factors include: (a) course organization and planning (b) clarity and communication skills (c) teacher students' interaction and rapport (d) course structure and workload (e) grading and examination.

The instrument that has been most widely used in published work is Marsh's (1982) Students' Evaluations of Educational Quality (SEEQ). In completing this questionnaire, students are asked to judge how well each of 35 statements (for instance, 'You found the course intellectually stimulating and challenging') describes their teacher or course unit, using a five-point scale from 'very poor' to 'very good'. The statements are intended to reflect nine aspects of effective teaching: learning/ value, enthusiasm, organization, group interaction, individual rapport, breadth of coverage, examinations/grading, assignments and workload/difficulty. The evidence using this and other similar questionnaires has been summarized in a series of reviews (Marsh, 1982, 1987; Arubayi, 1987; Marsh & Dunkin, 1992; Marsh & Bailey, 1993).

Ramsden (1991) developed a revised instrument, the Course Experience Questionnaire (CEQ), as a performance indicator for monitoring the quality of teaching on particular academic programmes. In the light of preliminary evidence, a national trial of the CEQ was commissioned by a group set up by the Australian Commonwealth Department of Employment, Education and Training to examine performance indicators in higher education (Linke, 1991). In this national trial, usable responses to the CEQ were obtained from 3372 final-year undergraduate students at 13 Australian universities and colleges of advanced education (Ramsden, 1991). The instrument used in this trial consisted of 30 items in five scales which had been identified in previous research as reflecting different dimensions of effective instruction: Good teaching (8 items); Clear goals and standards (5 items); Appropriate workload (5 items); Appropriate assessment (6 items); Emphasis on independence (6items). These dimensions are operationalized below in Table 1:

Table1. Defining Dimensions of the Scales in the Original Course Experience Questionnaire

Performance Dimensions	Operational Definition
Good Teaching	Teaching staff here normally give helpful feedback on how you are going.
Clear Goals and Standards	You usually have a clear idea of where you're going and what's expected of you in this course.
Appropriate Workload	The sheer volume of work to be got through in this course means you can't comprehend it all thoroughly.
Appropriate Assessment	Staff here seems more interested in testing what we have memorized than what we have understood.
Emphasis on Independence	Students here are given a lot of choice in the work they have to do.

Source: Ramsden, P. (1991) *A performance indicator of teaching quality in higher education: the Course Experience Questionnaire*, *Studies in Higher Education*, 16, 129–150.

Apodaca and Gard, (2005) provided a synthesis of research on dimensionality of instructional quality in higher education. Based on component factor analysis and similarity structural analysis, they identified seven dimensions composed of 21 critical performance indicators for instructional quality as shown in Table 2 below:

Table2. Standardized Dimensions of Teaching Performance Indicators

Performance Dimensions	Operational Definition
Communication	a. Explains clearly b. Concerned about student learning c. Highlights the important aspect
Preparation and Mastery	d. Interesting teaching e. Lecture well prepared f. Grip on Subject matter
Planning	g. Inform class plan and program h. Stick to scheduled plan i. Keep inform about evaluation
Interaction	j. receptive attitude k. encourage participation
Resources	l. applies concepts m. use bibliographical resources n. cite references
Assessment	o. exam based on learning p. feed back on class performance
Interaction / Rapport	q. takes student opinion into account r. provide helping course material s. help and guide students t. gets students involved in learning

Source: Apodaca, P and Gard, H. (2005) "Dimensionality of student rating of teaching quality"

METHODS

The data consisted of (20,000) assessment sheets completed by students six different industries six (6) faculties of Bahauddin Zakariya University, Multan. Major areas of interest in this study would be identification of key performance indicators for effective instructional quality in selected faculties like Faculty of Science & Agriculture, Faculty of Pharmacy, Faculty of Islamic Studies and Languages, Faculty of Commerce, Law and Business Administration, Faculty of Arts & Social Sciences, and Faculty of Veterinary Sciences. Each assessment sheet contained (24) variables. Comprehensive criticality (CC) index is developed as introduced by Thiagarajan and Zairi (1998) is applied to see the effects of three tiers on criticality of dimensions identified for instructional quality.

Data Analysis, Results and Discussion

By the method introduced by Thiagarajan and Zairi (1998) that's called as "Comprehensive Criticality Index or CC index" obtained by dividing the variation ratio by the maximal value norms the CC index so that the value of 1 always represents the least critical. Modified variation ratio equation used for calculating index:

$$\text{CC index} = (1 - \text{critical} / N) / (k - 1/k)$$

Where critical is the maximal value

Resultant values are arranged, analyzed and sorted in descending order of frequencies of occurrence. Indices tables of Critical performance indicator for instructional quality in higher education institution of Pakistan are listed in Annex-A. The values of these CP index in table 1(Annex-A) illustrate the rating of Critical Performance Indicators provided by the respondents

(N=20,000) for an overall quality of instruction across six faculties at Bahauddin Zakariya University Multan.

Performance Indicators for instructional quality from Overall University perspective

Tier-I of Comprehensive Critical Performance Indices (CCPI) of instructional quality for overall university stands apart with one most significant factor that is instructor preparation for class lecture. This critical performance indicator belongs to the preparation and mastery dimension of teaching quality as identified in literature review. This indicates that overall response of student course evaluation survey advocates that most critical indicator for quality of instruction is preparation and mastery of instructor to deliver his/her lecture. Tier-II comprises of second most critical set of performance indicators for instructional quality. Factors included in Tier-II belong to teaching quality dimensions including rapport, assessment, planning and communication. According to Tier-II factor ranking demonstration of knowledge with clear objectives and planning reflect that the student perceive these performance indicators as relatively more important for assessing instructional quality. Tier-II also emphasizes importance of relevant criteria; for assessing students' academic performance. However, critical performance indicators for instructional quality included in Tier-III are related with resource and interaction dimensions of teaching quality. Tier-III suggest that as supportive mechanism to improve overall quality of instruction, there is need to effectively manage various learning resources that include well defined course objectives with detailed outline of topics, availability of related course material, guidance about how students can apply subject knowledge in real-time situations. Students response also suggest that instructor should encourage students to actively participate in class discussion and seek opinion of individual student so as to involve the whole class in learning process

Faculty of Arts & Social Sciences

Critical factors for instructional quality in Faculty of Arts & Social Sciences are distributed in three tiers as shown in **Table 02**. Tier-I for this faculty indicates that most critical dimensions for quality of teaching are: instructor's preparation and mastery of knowledge and assessment. Similarly, students of this faculty also perceive learning oriented interaction and course planning equally important as mastery and assessment for quality of teaching. In Tier-II, we can find communication of subject matter, relevance and practical implication of subject, availability of related material and assignment of projects as supportive factors for the enhancement of overall quality of instruction in this faculty. These factors are related with instructor rapport and resource provision for effective learning conditions. However, tier-III contains factors like feedback of students' performance, integration of theoretical concepts with practical application of knowledge and availability of additional learning material. These factors suggest that students of this faculty perceive that overall quality of instruction can be improved mainly by focussing of instructor's mastery supported with the sufficient resources and justified assessment. Once these areas of teaching quality are improved, then proper feedback for students' performance should be considered as important to continually improve instructional quality.

Faculty of Science & Agriculture

Critical factors for instructional quality in Faculty of science and agriculture found in Tier-I also indicate that instructor's preparation and mastery of subjects along with fair

assessment are most critical dimensions for instructional quality. However, factors included in Tier-II suggest that in order to improve quality of teaching, completion of course contents, after class consultation for students, learning environment; are very important factors. Factors included in Tier-III of this faculty suggest that effective communication, updated course contents, relevancy of examination with the course contents are also important to improve other dimensions of instructional quality for this faculty. Overall, critical factor index for this faculty emphasize that instructional quality can be improved by focusing on mastery of subject and appropriate planning of course for specified period so that students can comprehend theoretical concepts and their application in real-time situations.

Faculty of Languages and Islamiat

Tier-I of Comprehensive criticality performance indices of instructional quality for faculty of languages and Islamic studies suggests that teaching quality is perceived as more of mastery and demonstration of subject matter, appropriate course planning and justified performance assessment on the part of instructor. Tier-II of these indices contains factor related with the availability of instructor for post-class guidance and provision of additional reference material so as to validate the concepts learned during classes. Tier-III of indices identifies various factors that are considered as important but not critical. These factors are related with the way instructor plans his lectures, assigns various projects and term reports and emphasizes on valuable sources of information for the teaching of particular course; this is to ensure that concepts discussed in the class should add value to students' knowledge base.

Faculty of Law, Commerce and Business Administration

Critical performance indicators indices for faculty of law, commerce and business administration provide us with a relatively different idea about the way students of this faculty perceive quality of instruction. Tier-I for this faculty contains only factor that's mastery and preparation of subjects as most critical for instructional quality. This emphasis on class preparation is justified as most of the departments in this faculty have the curriculum which is detail oriented and teaching of different courses included in curriculum requires the instructor to come up with most relevant concepts and present them with appropriate logic so that student can understand exactly how various concepts may be applied in real-time situations. Tier-II of this faculty's indices contains relatively more important factors like course planning, communication, interactive learning approach and use of appropriate teaching methods and demonstration of subject related knowledge as indicators of quality of instruction. Factors identified in tier-III also support the importance of performance indicators discussed in tier-II. Tier-III contains important factors like use of most recent reference material in the class, availability of instructor for student consultancy after scheduled classes and feedback about students' performance in assignments, quizzes and examination. These factors can be considered as facilitating factors to improve mastery of subjects and enhance overall quality of teaching while teaching different courses in faculty of law, commerce and businesses administration.

Faculty of Pharmacy

Tier-I of critical performance indicators index for the faculty of pharmacy suggests that students perceive subject mastery/ preparation, course objective statement, knowledge of grading criteria and relevancy of information provided by the instructor to demonstrate different concepts as most critical for quality of instruction. Tier-II of indices presents relatively more important

factors like supportive learning environment, demonstration about the way theoretical concepts can be used for performing practical experiments and instructor supportive attitude towards students as necessary factors for improving the quality of teaching in faculty of pharmacy. Third tier for performance indicator indices of faculty of pharmacy indicates that in order to improve dimensions of teaching quality discussed in tier-I and tier-III, there is need to improve other performance indicators like communication, covering desired number of class assignments, student consultancy hours after scheduled classes and use of most updated reference material available for particular subject.

Faculty of Veterinary Sciences

Tier-I of Critical performance indicator indices for the faculty of veterinary sciences postulates the idea that subject mastery and class preparation along with appropriate course planning are most critical performance indicators for quality of teaching in this faculty. Tier-II of performance indicators indices of this faculty identify relatively more important factors like justified performance assessment, effective communication of subject matter, healthy learning environment and updated reference material as necessary factors to improve quality of instruction. Students of this faculty perceive that once factors identified in tier-I & II are duly addressed and improved to a reasonable extent then there is need to consider factors like instructor should assign some projects during the course of subject and establish some criteria for evaluation of students' performance in addition to their performance in examination. They are also of the view that instructor should provide the students with the opportunity to perform field visit in order to learn practical implications of knowledge they acquire in their academic sessions.

Interfaculty Comparison

Critical performance indicator indices for six faculties found to be different as far as the weights of performance indicators and distribution of critical factors among three tiers is concerned. However, there are some common performance indicators which are emphasized equally in all performance indices of six faculties. One such factor is mastery and preparation of lectures by the course instructor. Students from all the faculties rate this factor as most critical to enhance the quality of instruction. We may find some justifications to explain why students have unanimously perceived mastery of subject matter and preparation of class lecture as most critical factor out of 18 factors included in survey questionnaire. One possible justification is students' readiness to first understand and then internalize various concepts; this is partly because of unequal schooling and secondary education facilities available to majority of students enrolled in BZ University. Therefore, at inception of their higher education degree, students struggle to understand different concepts discussed in class. They expect their teacher to deliver a structured lecture by clearly outlining various contents of the subject and then dictating the students various underlying ideas available to understand various concepts. Now, if we look at the differences among students' perception of critical performance indicators for instructional quality across six faculties, we can see that most important contextual factor that creates the difference is system of education, i.e. there are some faculties which are following annual system, while others are following semester system. Students from annual system disciplines like Pharmacy, and students of annual master degree program in some other departments like English and Economics perceive rapport, course planning and communication as most important factors for improving quality of instruction. On the other hand, students from semester system consider performance

evaluation as effective communication of knowledge, use of recent reference material to supplement different courses included in their curriculum.

ANNEXTURE-A

Table 1: Comprehensive Criticality (CC) Performance Indices of Instructional quality for Overall University

Index Value	Instructional Quality Performance Indicator
Tier I	
0.5202	Instructor is prepared for each class
Tier II	
0.5622	Instructor demonstrates knowledge of the subject
0.5628	Instructor is fair in examination
0.5688	Instructor leaves class on time
0.5714	Instructor shows respect towards students and encourages class participation
0.5732	Instructor arrives on time
Tier III	
0.6016	Instructor has completed the whole course
0.6130	Instructor available during office hours and for after class consultations
0.6170	Instructor maintains an environment that is conducive to learning
0.6344	Instructor communicates the subject matter effectively
0.6451	Course material is modern and updated
0.6538	Subject matter presented in the course increased knowledge of the subject
0.6752	Assignments and exams covered the Materials presented in the course
0.6933	Instructor provides additional material apart from the textbook
0.7028	Instructor returns the graded scripts etc. in a reasonable amount of time

Table 2: Comprehensive Criticality (CC) Performance Indices of Instructional quality for Faculty of Arts & Social Sciences

Index Value	Instructional Quality Performance Indicator
Tier I	
0.4745	Instructor is prepared for each class
0.4930	Instructor is fair in examination
0.5161	Instructor demonstrates knowledge of the subject
0.5307	Instructor shows respect for students and encourages class participation
0.5322	Instructor arrives on time
0.5465	Instructor has completed the whole course
Tier II	
0.5717	Instructor leaves class on time
0.5926	Instructor communicates the subject matter effectively
0.5938	Subject matter presented in the course increase knowledge of the subject
0.5999	Instructor maintains an environment that is conducive to learning
0.6172	Course material is modern and updated
0.6318	Assignments and exams covered the Materials presented in the course
Tier III	
0.6713	Instructor provides additional material apart from the textbook
0.6843	Instructor gives citations regarding current situations with reference to Pakistani context
0.6898	Course integrates theoretical course concepts with real world applications
0.7010	Instructor returns the graded scripts etc. in a reasonable amount of time

Table 3: Comprehensive Criticality (CC) Performance Indices of Instructional quality for Faculty of Science & Agriculture

Index Value	Instructional Quality Performance Indicator
Tier I	
0.4943	The Instructor is prepared for each class
0.5014	The Instructor is fair in examination
0.5192	The Instructor leaves class on time
0.5307	The Instructor shows respect towards students and encourages class participation
0.5343	The instructor arrives on time
0.5354	The Instructor demonstrates knowledge of the subject
Tier II	
0.5540	The Instructor has completed the whole course
0.5639	The Instructor was available during the specified office hours and for after class consultations
0.5699	The Instructor maintains an environment that is conducive to learning
Tier III	
0.6019	The Instructor communicates the subject matter effectively
0.6134	The course material is modern and updated
0.6223	The subject matter presented in the course has increased your knowledge of the subject
0.6239	The assignments and exams covered the Materials presented in the course
0.6387	The Instructor returns the graded scripts etc. in a reasonable amount of time
0.6778	The Instructor provides additional material apart from the textbook

Table 4: Comprehensive Criticality (CC) Performance Indices of Instructional quality for Faculty of Languages and Islamiat

Index Value	Instructional Quality Performance Indicator
Tier I	
0.6275	The Instructor is prepared for each class
0.6357	The Instructor demonstrates knowledge of the subject
0.6418	The Instructor has completed the whole course
0.6459	The Instructor is fair in examination
0.6592	The Instructor shows respect towards students and encourages class participation
Tier II	
0.6950	The Instructor was available during the specified office hours and for after class consultations
0.7164	The course material is modern and updated
0.7205	The Instructor maintains an environment that is conducive to learning
0.7215	The Instructor leaves class on time
0.7277	The Instructor communicates the subject matter effectively
Tier III	
0.7410	The subject matter presented in the course has increased your knowledge of the subject
0.7502	The instructor arrives on time
0.7686	The Instructor provides additional material apart from the textbook
0.7696	The Instructor returns the graded scripts etc. in a reasonable amount of time
0.7706	The assignments and exams covered the Materials presented in the course

Table 5: Comprehensive Criticality (CC) Performance Indices of Instructional quality for Faculty of Law, Commerce and Business Administration

Index Value	Instructional Quality Performance Indicator
Tier I	
0.5470	Instructor is prepared for each class
Tier II	
0.5753	The Instructor leaves class on time
0.5856	The Instructor has completed the whole course
0.5885	The instructor arrives on time
0.5975	The Instructor is fair in examination
0.5979	The Instructor shows respect towards students and encourages class participation
0.6044	The Instructor demonstrates knowledge of the subject
Tier III	
0.6450	The course material is modern and updated
0.6471	The Instructor maintains an environment that is conducive to learning
0.6565	The Instructor communicates the subject matter effectively
0.6721	The Instructor provides additional material apart from the textbook
0.6791	The Instructor was available during the specified office hours and for after class consultations
0.6893	The assignments and exams covered the Materials presented in the course
0.6988	The Instructor returns the graded scripts etc. in a reasonable amount of time

Table 6: Comprehensive Criticality (CC) Performance Indices of Instructional quality for Faculty of Pharmacy

Index Value	Instructional Quality Performance Indicator
Tier I	
0.6763	The Instructor is prepared for each class
0.6910	The Instructor leaves class on time
0.6987	The Instructor demonstrates knowledge of the subject
0.7126	The syllabus clearly states course objectives, requirements, procedures and grading criteria
0.7234	The instructor arrives on time
0.7280	The subject matter presented in the course has increased your knowledge of the subject
Tier II	
0.7635	The Instructor maintains an environment that is conducive to learning
0.7674	The course integrates theoretical course concepts with real world applications
0.7759	The Instructor shows respect towards students and encourages class participation
Tier III	
0.8091	The Instructor communicates the subject matter effectively
0.8106	The assignments and exams covered the Materials presented in the course
0.8137	The Instructor was available during the specified office hours and for after class consultations
0.8207	The course material is modern and updated
0.8361	The Instructor provides additional material apart from the textbook
0.8438	The Instructor gives citations regarding current situations with reference to Pakistani context

Table 7: Comprehensive Criticality (CC) Performance Indices of Instructional quality for Faculty of Veterinary Sciences

Index Value	Instructional Quality Performance Indicator
Tier I	
0.1930	The Instructor is prepared for each class
0.2895	The Instructor leaves class on time
0.3033	The Instructor shows respect towards students and encourages class participation
0.3079	The Instructor has completed the whole course
0.3125	The instructor arrives on time
0.3170	The Instructor demonstrates knowledge of the subject
Tier II	
0.3584	The Instructor is fair in examination
0.3630	The Instructor communicates the subject matter effectively
0.3722	The subject matter presented in the course has increased your knowledge of the subject
0.3860	The Instructor maintains an environment that is conducive to learning
0.4136	The Instructor was available during the specified office hours and for after class consultations
0.4227	The course material is modern and updated
Tier III	
0.4595	The assignments and exams covered the Materials presented in the course
0.4641	The Instructor provides additional material apart from the textbook
0.4779	The Instructor returns the graded scripts etc. in a reasonable amount of time
0.4917	The syllabus clearly states course objectives, requirements, procedures and grading criteria
0.5101	The course integrates theoretical course concepts with real world applications

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