ENHANCEMENT OF FACULTY EVALUATION INSTRUMENT FOR TECHNICAL INSTRUCTORS AT PHILIPPINE STATE COLLEGE OF AERONAUTICS

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Abstract

The primary objective of this study was to come up with an enhanced evaluation instrument for technical instructors of the Philippine State College of Aeronautics. Relevant instructional competencies/teaching skills were identified from Focus Groups Discussions (FGDs) conducted involving instructional instructors and students from the Institute of Engineering and Technology. Four themes or areas of instructional competencies were identified from the focus group discussion and were found to be aligned with the teaching skills listed in the FAA's Aviation Instructors' Manual. These were incorporated and formed the four sub-sections in the enhanced instrument, these are Inter-Personal Skills, Mastery of Subject Matter, Instructional Management Skills, and Assessment Skills. Another notable innovation of the enhanced instrument is that it uses a rubric-type performance rating scale with specific criterion that allows easy appraisal of faculty performance, classified into Beginning, Developing, Proficient, and Exemplary. This replaces the arbitrary adjectival descriptors in the old instrument. Enhanced instrument was also subjected to pilot-testing revealing that mean results shifted slightly to the left compared to the results from the old instrument which is highly skewed to the left. Reliability value based on Cronbach's alpha was very high at 0.960 while the acceptability value was also high with a mean value of 3.48. No significant difference was found in the acceptability level among respondents when they were grouped according to curricular programs. The author highly recommends for the utilization of the instrument for the entire Institute of Engineering and Technology at least for one semester so as to gather more data to sufficiently validate the initial findings of this study.

Keywords: Enhanced evaluation instrument; instructional competencies; reliability; acceptability

Introduction

One measure of teaching effectiveness is the scores from the survey that students complete during each academic semester. The evaluative instrument used for this purpose is commonly referred to as the student ratings of teaching (SRT), teacher rating form (TRF), student evaluation of teaching (SET), or student evaluation of faculty (SEF). Survey results have been used to make critical judgments regarding instructional effectiveness. Abrami, Theall, and Mets (2001) reported that students' ratings "serve as tools for instructional improvement, as evidence for promotion and tenure decisions, as the means for student course selection, as one criterion of program effectiveness, and as the continuing focus of active research. Essentially, student ratings have served two faculty evaluative functions: formative and summative. Results from student evaluations have been used to inform the teacher and, hopefully, assist the individual to become a more effective instructor.

Summative evaluations have been made using student ratings to support tenure, promotion, transfer, and termination decisions as well as approve pay increases and faculty awards. In some colleges and universities, the data from student ratings have served as the only criterion for judging teacher effectiveness. Cashin (1999) reported, "Many colleges and universities rely heavily, if not solely, on student rating data as the only systematic source of data collected to evaluate teaching". According to Theall and Franklin (2001), "Though it may seem obvious that summative evaluation includes more technical rigor and a wider array of data, the unfortunate reality is that summative decisions about teaching are often made on the basis of student ratings data alone".

Consequently, evaluating faculty teaching performance through the use of student ratings has involved students in the highly sensitive personnel evaluation process. Selden (1999) reported a significant increase in the use of student ratings as a source of information to evaluate teaching performance by liberal arts colleges. According to Selden

(1999), "Student ratings are now the most widely used source of information on teaching effectiveness". Approximately 55% of the 680 liberal arts colleges that Selden surveyed in 1978 used student ratings to evaluate faculty. The importance of using student ratings as a source of information increased to 80% of the 604 liberal arts colleges surveyed in 1988 and to 88% of the 598 colleges surveyed in 1998. Kulik (2001) suggested that "the trend seems to be toward an increasing use of student ratings in higher education". This emphasis on student ratings or "student satisfaction measures"

(Downey, 2003) concerns many faculty members who are not convinced of the reliability, validity, and usefulness of the student ratings data. Selden (1984) stated, "In general, most factors that might be expected to influence student ratings have relatively small or no effect". Selden, noted that some of the controversy surrounding the use of student ratings has involved issues such as student characteristics (age, sex, and student level); course and class characteristics (size of class, subject matter, elective versus required course); and instructor characteristics (sex, professional rank, and grading standards).

How to measure the quality of teaching through student evaluations has been a research topic for 75 years. Centra (1993) reported that the Purdue teacher rating form which was published by Purdue University in 1927 was most likely the first student evaluation form. According to Centra, Remmers and his Purdue colleagues used the Purdue teacher rating form in the initial investigations of student evaluation of teaching effectiveness. Cashin (1999) reported that the research base of student ratings of teaching was now extensive. Cashin's concern was the over reliance on student ratings data by colleges and universities; he expressed the necessity to have other source of information to evaluate teaching. Theall and Franklin (2001) stated, "Few issues in higher education are as sensitive, divisive, and political as faculty evaluation and in particular the quality and value of the information provided by students in their evaluations of teachers and courses". In their review of the ratings literature, Theall and Franklin (2001) discussed the aggressive research effort among some researchers to discredit student ratings. They also suggested that a more beneficial direction would be to improve the knowledge and skills of those who use the data and, thereby, decrease the issues of mistrust and misuse of the data. Although many individuals within the higher education academic community would agree that student ratings of teaching (SRT) have informative merit, there appears to be a lack of awareness about the findings of student evaluation research among college faculty and administrators.

Theall and Franklin (2001) in citing their 1989 study "found a surprising lack of knowledge about the literature of student ratings and even about the basic statistical information necessary to interpret reports accurately". Theall and Franklin (2001) concluded from their 1989 survey of over 600 faculty and administrators that the more knowledge the research participants had about student evaluations, the more positive were their attitudes toward students and student evaluations. Furthermore, they reported "that lack of knowledge correlated significantly with negative opinions about evaluation, student ratings, and the value of student feedback". The relative ease of SRT administration and its quantitative format have provided higher education administrators a method to measure teaching effectiveness and support personnel decisions.

Moreover, using data from the SRTs has provided a method for institutions to respond to societal demands to demonstrate instructional performance. Despite concerns among some faculty about the use of SRTs, it appears that student ratings will remain as one indicator of teaching effectiveness. Ory and Ryan (2001) suggested that "the body of literature supporting the validity of student ratings needs to be expanded to include studies of how student ratings are used on today's campuses and what happens as a result". Acquiring information on how students perceive their role as evaluators provides an additional source of data in the continuous effort to improve the student ratings practice.

Most evaluation instruments however, including the one currently being used at the Philippine State College of Aeronautics seems to fall short in realistically evaluating the teaching competencies of technical instructor. One observation is that most items are either generic or ambiguous, some overlaps with other items in another subsections. Let alone the ambiguity in the scale being used, wherein students are left to decide when to give outstanding or very satisfactory or even unsatisfactory rating. Ambiguous instrument using an equally vague scale results in erroneous evaluation by students, thus the purpose of improving instruction through evaluation is never realistically achieved.

Materials and Methods

Research design

The researchers used descriptive method, utilizing a combination of both qualitative and quantitative approaches. Focus group discussion was utilized to determine instructional competencies of technical instructor as well as relevant areas for evaluation that should be included in the instrument to be enhanced. Quantitative approach was utilized to establish the validity and reliability of the enhanced instrument. The study was conducted on February-July 2016.

Participants of the Study

Opportunistic sampling technique was employed in the selection of respondents. 30 students from each department under the Institute of Engineering and Technology were randomly selected for the study namely the Aircraft Maintenance Technology (AMT), Aviation Electronics Technology (AET), and Aeronautical Engineering/Air Transportation (Aero/AT). The main criteria for the selection are students who completed most of the technical subjects in their curriculum. This ensure that they have went through as many technical instructors and therefore in a better position to evaluate objectively. For the focus group discussion, only those willing and available technical instructors and select students from the said institute were asked to participate.

Data Gathering Method

A set of guide question was utilized for the focused group discussion. The questions were designed to elicit response that will identify instructional competencies and evaluation areas that should be included in the teachers' evaluation instrument that was enhanced. The developed teacher's evaluation was then be subjected to reliability and validity testing. A survey questionnaire was also utilized to determine acceptability of the enhanced evaluation instrument.

The old and enhanced evaluation questionnaires were used as the main data-gathering instrument for this study; both were composed of four sections.

The old questionnaires were divided into: (A) commitment, (B) Knowledge of Subject Matter, (C) Teaching for Independent Learning, and (D) management of Learning. The enhanced instrument was also divided into four sections based on the areas identified in the focus group discussion.

Enhancement Process

Developing the SET instrument was conducted in the following steps:

1. Determining the Aspects of Effective Teaching and Instructional Competencies

The main aspects of effective teaching were identified through an extensive review of literature on teaching effectiveness and evaluation at the college level and the focused group discussion involving select students and faculty members.

2. Assessing Validity

"Validity is an indication of how well an instrument actually measures what it is intended to measure, and helps to ensure that there are no logical errors in drawing conclusions from the data" (Dodeen, 2003). When validating an instrument, it is recommended to collect evidences to support both the content and the construct validity (Marsh, 2007). Following this, evidences of both types of validity were assessed as follows: Content-related validity: this is the degree to which the content of the items of the instrument reflects the content domain of interest. Generally, content-related validity is established if content experts review and agree that the instrument items are representing the aspects of the construct to be assessed. To assess content validity of the current instrument, a panel of faculty members from PhilSCA with similar educational background and experience were requested to review the instrument. This enhanced instrument was subjected to face and content validation by three experts in the field of education.

3. Assessing Reliability

Reliability of an instrument means the extent to which "the results could be replicated if the same individuals were tested again under similar circumstances" (Crocker & Algina, 1986). The internal reliability of the instrument was assessed using Cronbach's alpha. The minimum recommended level is 0.70 (Nunnally & Bernstein, 1994).

Results and Discussions

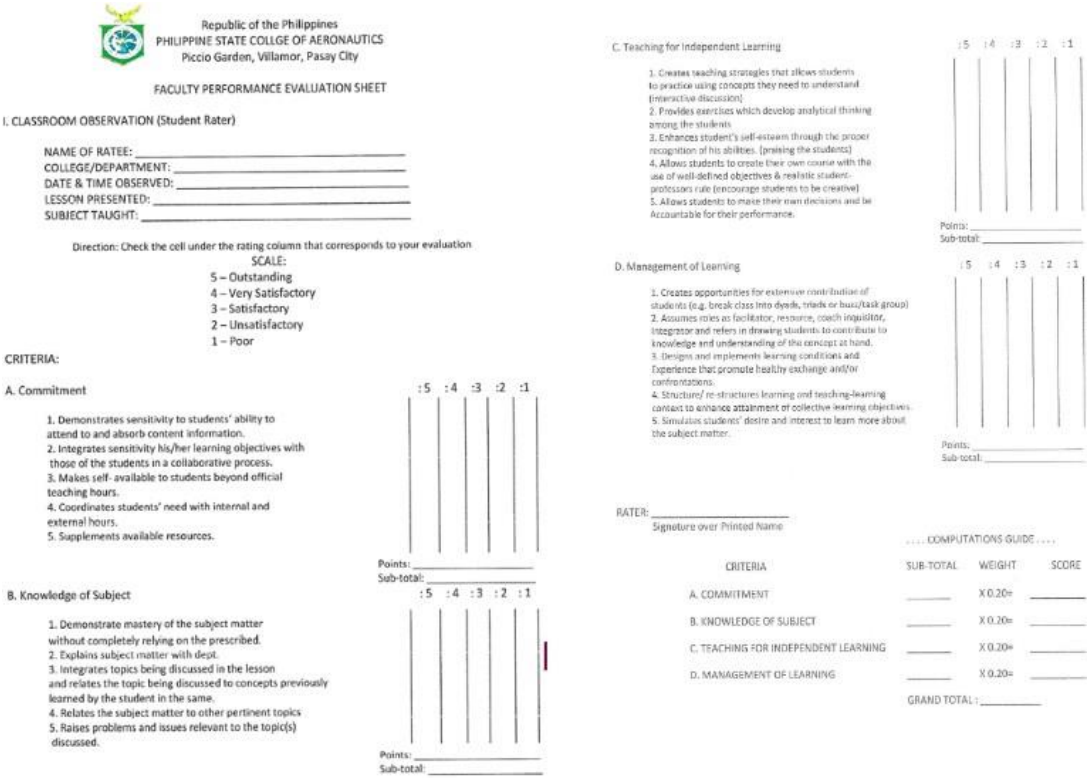
Table 1 presents the summary of output from the FGD conducted among technical instructors and select students from the three departments of the Institute of Engineering and Technology. Guide questions utilized in the discussion attempted to illicit responses that will identify characteristics or traits of effective technical instructors. Their answers were grouped together then categorized into common themes or areas. Four common themes or areas emerged and identified from the FGD conducted.

Table 1. Results of Focus-Group Discussion showing perceived desirable traits of technical instructors and the four common identified areas/themes.

AREA/THEME	INSTRUCTOR CHARACTERISTICS/TRAITS
Inter-Personal Skills	Good communication skills Listens to students, answers students questions Speaks clearly and in a loud voice Calm in dealing with students Extends help to those who can't cope with lessons Good attitude, praises students works Supports students efforts Enthusiastic in teaching Considers mental ability of students Patience in dealing with students
Mastery of Subject Matter	Show expertise and mastery of subject matter Explains clearly and extensively Relates topic with actual situation Provides many examples in the field Knowledgeable in PCAR Balances theory and application Presents lesson in organized and logical manner Updated with latest trends and research findings Prepares modules ahead of time
Classroom Management Skills	Uses time efficiently, does not waste time Makes discussions interesting and provides activities that catches students attention Uses different methods in teaching Incorporates technology in the lessons Guides in giving assignments and group works
Evaluation Skills	Fairness in grading Gives feedback, returns quizzes and projects Explains grading system Monitors progress of student understanding and adjust discussions accordingly

It was noted that there was no difference in the answers between the group of instructors and students in terms of identifying traits or characteristics of an effective instructor. The many traits identified by both groups were categorized into common theme or areas as shown in Table 1. It is note-worthy that these clustering is consistent with the four essential teaching skills identified by the US Department of Transportation's Federal Aviation Authority in their book Aviation Instructors handbook (2008), which include; People Skills, Subject Matter Expertise, Management Skills, and Assessment Skills. These are then utilized in the enhancement of the evaluation instrument.

Current Faculty Performance Evaluation instrument is presented below. It has four sections as earlier mentioned and it can also be noted that the rating scale therein uses a scale of 1-5 with one as the lowest and five as the highest, interpreted as poor to outstanding, respectively.



Republic of the Philippines
PHILIPPINE STATE COLLGE OF AERONAUTICS
Piccio Garden, Villamor, Pasay City

FACULTY PERFORMANCE EVALUATION SHEET

I. CLASSROOM OBSERVATION (Student Rater)

NAME OF RATEE: _____
COLLEGE/DEPARTMENT: _____
DATE & TIME OBSERVED: _____
LESSON PRESENTED: _____
SUBJECT TAUGHT: _____

Direction: Check the cell under the rating column that corresponds to your evaluation

SCALE:
5 – Outstanding
4 – Very Satisfactory
3 – Satisfactory
2 – Unsatisfactory
1 – Poor

CRITERIA:

A. Commitment

1. Demonstrates sensitivity to students' ability to attend to and absorb content information.
2. Integrates sensitivity his/her learning objectives with those of the students in a collaborative process.
3. Makes self- available to students beyond official teaching hours.
4. Coordinates students' need with internal and external hours.
5. Supplements available resources.

:5 :4 :3 :2 :1

Points: _____
Sub-total: _____

B. Knowledge of Subject

1. Demonstrate mastery of the subject matter without completely relying on the prescribed.
2. Explains subject matter with dept.
3. Integrates topics being discussed in the lesson and relates the topic being discussed to concepts previously learned by the student in the same.
4. Relates the subject matter to other pertinent topics
5. Raises problems and issues relevant to the topic(s) discussed.

:5 :4 :3 :2 :1

Points: _____
Sub-total: _____

C. Teaching for Independent Learning

1. Creates teaching strategies that allows students to practice using concepts they need to understand (interactive discussion)
2. Provides exercises which develop analytical thinking among the students
3. Enhances student's self-esteem through the proper recognition of his abilities. (praising the students)
4. Allows students to create their own course with the use of well-defined objectives & realistic student-professors rule (encourage students to be creative)
5. Allows students to make their own decisions and be Accountable for their performance.

:5 :4 :3 :2 :1

Points: _____
Sub-total: _____

D. Management of Learning

1. Creates opportunities for extensive contribution of students (e.g. break class into dyads, triads or buzz/task group)
2. Assumes roles as facilitator, resource, coach inquisitor, integrator and refers in drawing students to contribute to knowledge and understanding of the concept at hand.
3. Designs and implements learning conditions and Experience that promote healthy exchange and/or confrontations.
4. Structure/ re-structures learning and teaching-learning context to enhance attainment of collective learning objectives.
5. Simulates students' desire and interest to learn more about the subject matter.

:5 :4 :3 :2 :1

Points: _____
Sub-total: _____

RATER: _____
Signature over Printed Name

..... COMPUTATIONS GUIDE .....

CRITERIA	SUB-TOTAL	WEIGHT	SCORE
A. COMMITMENT	_____	X 0.20=	_____
B. KNOWLEDGE OF SUBJECT	_____	X 0.20=	_____
C. TEACHING FOR INDEPENDENT LEARNING	_____	X 0.20=	_____
D. MANAGEMENT OF LEARNING	_____	X 0.20=	_____

GRAND TOTAL : _____

Such rating scale almost becomes meaningless as cannot give any semblance of quantitative measure of the item being evaluated by the student. It thus becomes very subjective depending on who they are evaluating, i.e., if they like the teacher, then they will simply tick number five or conversely if they dislike the teacher, they will tick the column between 1-3. Such is hopefully prevented with the enhanced instrument as it presents a new rating scale with a criterion that is clearly explained thus making the evaluation more valid and reliable. Table 2 presents the enhanced Faculty Performance Evaluation Instrument that already incorporates all the suggestions from the FGD and available literature on essential teaching competencies.

Table 2. Enhanced Faculty Performance Evaluation Sheet for Technical Instructors Enhanced instrument for Faculty Evaluation by Students

Republic of the Philippines
Philippine State College of Aeronautics
Piccio Garden, Villamor, Pasay City

FACULTY PERFORMANCE EVALUATION SHEET
Teacher Evaluation by Students 1st Semester, AY 2016-2017

Name of Student (Optional) _____ Name of Faculty _____
Institute/Department Subject

	Performance Ratings			
	1: Beginning	**2: Developing**	**3: Proficient**	**4: Exemplary**
Criterion	There is very *little evidence* of the Instructor's ability to XXX	There is *limited evidence* of the Instructor's ability to XXX	There is *sufficient evidence* of the Instructor's ability to XXX	There is *clear, consistent, and convincing evidence* of the Instructor's ability to XXX
Not Observed – There is no evidence of the Instructor's ability to/or that required teaching abilities are not observed during a classroom observation/or not applicable for the given subject				

A. Interpersonal Skills

Performance Ratings (please tick appropriate column)					
1: Beginning		**2: Developing**	**3: Proficient**	**4: Exemplary**	**Not Observed**
Stimulates students' desire and interest to learn by creating a positive learning environment					
Exhibits friendliness, approachability, and engages students as individuals					
Designs and implements learning conditions and experiences that promote healthy exchange and/or confrontations					
Demonstrates sensitivity to students needs and makes self-available beyond official teaching hours					
Enhances students' self-esteem through proper recognition of their abilities					

B. Mastery of Subject Matter

Performance Ratings (please tick appropriate column)					
1: Beginning		**2: Developing**	**3: Proficient**	**4: Exemplary**	**Not Observed**
Demonstrates mastery of and explains the subject matter clearly and comprehensively					
Maintains focus on learning; ideas and key concepts are organized and logically presented					
Integrates students' knowledge into the lesson and relates them to various relevant topics; uses real life situations and examples to illustrate concepts					
Encourages Higher Order Thinking Skills (HOTS) by promoting critical analysis and evaluation of topics being studied; and tolerance of different viewpoints					
Incorporates research findings and/or latest trends, innovations in aviation into the discussion					

C. Instructional Management Abilities

Performance Ratings (please tick appropriate column)					
1: Beginning		**2: Developing**	**3: Proficient**	**4: Exemplary**	**Not Observed**
Assumes roles as facilitator, resource person, coach, inquisitor, integrator, and draws students to contribute actively to the teaching-learning process					
Uses a variety of instructional techniques that takes into consideration the various learning styles, learner types and multiple intelligences					
Integrates technology into the teaching-learning processes by providing technology-based learning materials and activities					
Provides opportunities for interactive discussions, collaborative tasks, and other cooperative and reflective learning strategies					

Performance Ratings (please tick appropriate column)					
1: Beginning		**2: Developing**	**3: Proficient**	**4: Exemplary**	**Not Observed**
Manages time well by planning meaningful and creative learning activities and having clear classroom policies and procedures					

D. Assessment Skills

Performance Ratings (please tick appropriate column)					
1: Beginning		**2: Developing**	**3: Proficient**	**4: Exemplary**	**Not Observed**
Listens carefully to students questions and provides clear, relevant, and understandable responses					
Checks student understanding by summarizing major points and requiring students to elaborate and demonstrate level of understanding					
Provides good feedback on homework, projects and other activities to help students improve performance					
Monitors individual work to uncover levels of comprehension and is actively helpful when students struggle with the lesson and requires assistance					
Grades fairly; basis for evaluation is clearly explained and is implemented consistently					

The enhanced instrument also contains four sections that is already aligned with the characteristics/traits identified in the FGD conducted and the essential teaching skills stipulated in the Aviation Instructors' Manual. The main difference in the content compared with that of the currently used instrument in PhilSCA is the inclusion of the section on assessment. Both the instructors and students agree that a fair and transparent system of grading is essential in the teaching learning process. It is likewise noteworthy that the mastery of subject matter is as important as the ability of the instructor to effectively communicate the concepts and principles of the course.

The ability to openly relate with the students under warm and non-threatening environment is likewise seen as an important skill of instructors if they are to ensure that students learn and sustain interest in learning. The incorporation of technology in the lesson development and use of it during classroom activities is now seen by both teachers and students as essential component of an effective learning environment.

Comparative result of old instrument and Pilot Testing

Pilot testing of the enhanced instrument was conducted involving a total of ninety (90) students, 30 from each of the three program departments of the Institute of Engineering and Technology. Prior to the pilot-testing of the enhanced instrument, a parallel evaluation was done using the current instrument. Since the respondents were junior and senior college students, no particular technical instructor was asked to be rated but instead, they were asked to evaluate their technical instructor in general. Respondents were briefed on the purpose of the study being conducted and were re-oriented on the use of the current instrument which uses a rating scale of 1-5 with 5 as the highest possible score. Summary of their evaluation is given in Table 3. It can be seen that all section means got an outstanding evaluation with the exception of the first section in the instrument, Commitment, among the AMT respondents which got only 4.48 (Very Satisfactory). Over-all mean for all groups (AMT, AVT, Aero/AT) is 4.67 which is interpreted as OUTSTANDING.

Summary of results of the Pilot Testing using the enhanced instrument for Faculty Performance Evaluation by students is given in Table 4. It can easily be seen that there is striking difference in the numerical and adjectival interpretation between the two sets of evaluation using different instrument. All the section means as well as the over-all mean for all groups of respondents was only 2.63 but was interpreted as VERY SATISFACTORY. Table 5 provides the

comparison in the interpretation of means between the two instruments. Adjectival Description was maintained for both instruments to showcase difference in the numerical value between the two. Only difference was with the lowest value wherein it was described as POOR in the old instrument and NOT OBSERVED in the enhanced instrument.

Table 3. Section Summary of Students' Evaluation using the Current Faculty Performance Evaluation Instrument (n=90)

	AMT				AERO/AT				AVT			
n	A	B	C	D	A	B	C	D	A	B	C	D
MEAN	4.48	4.57	4.68	4.66	4.73	4.75	4.66	4.57	4.73	4.77	4.66	4.75

OVER-ALL MEAN = 4.67 (OUTSTANDING)

Table 4. Section Summary of Students' Evaluation using the Enhanced Faculty Performance Evaluation Instrument (n=90)

	AMT				AERO/AT				AVT			
n	A	B	C	D	A	B	C	D	A	B	C	D
MEAN	2.83	2.76	2.69	2.71	2.59	2.54	2.33	2.51	2.67	2.65	2.63	2.62

OVER-ALL MEAN = 2.63 VERY SATISFACTORY

The difference in the result of the evaluation could probably be attributable to the clearer and more quantifiable performance rating in the enhanced instrument wherein the criterion specifies for and can draw difference among the terms "very little evidence, limited evidence, sufficient evidence, and clear, consistent and convincing evidence" as opposed to simply rate using descriptors as outstanding, very satisfactory, satisfactory, unsatisfactory, and poor. Student respondents were probably hesitant to simply tick out the highest rating unless they saw clear, consistent, and convincing evidence that the specific teaching skill was manifested or demonstrated by the faculty.

The skewed nature of data which is much skewed to the left, using the old instrument is somehow corrected using the enhanced instrument as it gives a more realistic evaluation instead of rating all aspects of teaching as outstanding as shown in table 3.

Reliability and Acceptability of the Enhanced Instrument

Reliability of the enhanced instrument was determined using Cronbach alpha and item analysis. Results are shown in the following tables.

Table 5. Reliability Statistics of the Enhanced Faculty Performance Evaluation Instrument (n=20) using Cronbach's Alpha

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.960	.962	20

Table 6. Item Statistics showing Mean and Standard Deviation in the Evaluation using the Enhanced Instrument (N=90).

	Mean	Std. Deviation	N
Item A.1	2.7222	.70357	90
Item A.2	2.8000	.69022	90
Item A.3	2.6444	.72377	90
Item A.4	2.6111	.81688	90
Item A.5	2.6222	.75814	90
Item B.1	2.6778	.79079	90
Item B.2	2.6667	.71893	90
Item B.3	2.6444	.78341	90
Item B.4	2.5667	.79394	90
Item B.5	2.3333	.92408	90
Item C.1	2.5556	.76601	90
Item C.2	2.4556	.75194	90
Item C.3	2.5222	.83770	90
Item C.4	2.6333	.66112	90
Item C.5	2.6000	.80448	90
Item D.1	2.7556	.69203	90
Item D.2	2.6444	.78341	90
Item D.3	2.5444	.75194	90
Item D.4	2.5000	.76804	90
Item D.5	2.6111	.90807	90

Table 7. Item-Total Statistics for Reliability Testing of the Enhanced Evaluation Instrument using Cronbach's Alpha.

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item A.1	59.8111	157.297	.631	.	.959
Item A.2	59.7333	158.729	.559	.	.960
Item A.3	59.8889	156.793	.641	.	.959
Item A.4	59.9222	154.042	.701	.	.958
Item A.5	59.9111	156.002	.652	.	.959
Item B.1	59.8556	157.038	.569	.	.960
Item B.2	59.8667	157.116	.627	.	.959
Item B.3	59.8889	154.618	.703	.	.958
Item B.4	59.9667	155.099	.668	.	.959

Item B.5	60.2000	151.942	.708	.	.959
Item C.1	59.9778	155.079	.695	.	.958
Item C.2	60.0778	153.952	.772	.	.958
Item C.3	60.0111	153.190	.725	.	.958
Item C.4	59.9000	156.946	.697	.	.959
Item C.5	59.9333	155.529	.636	.	.959
Item D.1	59.7778	157.209	.648	.	.959
Item D.2	59.8889	155.184	.673	.	.959
Item D.3	59.9889	154.974	.715	.	.958
Item D.4	60.0333	154.204	.741	.	.958
Item D.5	59.9222	154.118	.620	.	.960

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
62.5333	168.931	12.99735	20

It can be seen that the enhanced instrument had a very reliable statistical value of 0.960 which is very well above the acceptable Cronbach's Alpha value of 0.700. This simply implies that the items are very much interrelated and are robust and consistent.

Acceptability of the new instrument was determined using a survey instrument given to the same group of respondents of 30 select students from each of the three departments of the Institute of Engineering and Technology. Figure 1 shows comparative acceptability mean results from the three groups. AMT had a mean acceptability value higher than the total over-all acceptability value of 3.48 which is at 3.55 interpreted as HIGHLY ACCEPTABLE.

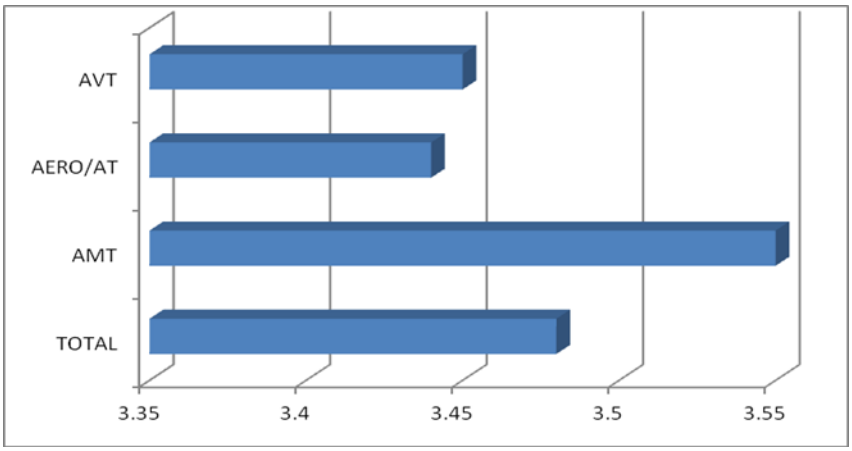


Figure 1. Acceptability level of the Enhanced Faculty Performance Evaluation Instrument (N=90).

Table 8 above clearly shows that there is no significant difference in the acceptability level among the three groups of respondents. All three groups have a mean acceptability value ranging from 3.48-3.55 which are within the acceptable to highly acceptable levels. This means that they all find the new instrument more user-friendly, easier to understand and use, and has clearer instructions and unambiguous items. These factors help in coming up with a more valid and reliable evaluation of the performance of technical instructors.

Table 8. One-way Analysis of Variance on the Acceptability of the Enhanced Faculty Performance Evaluation Instrument when respondents are grouped based on curricular program using SPSS (N=90)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
VAR00002	Between Groups	.022	2	.011	.044	.957
	Within Groups	22.200	87	.255		
	Total	22.222	89			
VAR00003	Between Groups	1.067	2	.533	2.175	.120
	Within Groups	21.333	87	.245		
	Total	22.400	89			
VAR00004	Between Groups	.089	2	.044	.140	.870
	Within Groups	27.700	87	.318		
	Total	27.789	89			
VAR00005	Between Groups	.022	2	.011	.044	.957
	Within Groups	21.767	87	.250		
	Total	21.789	89			
VAR00006	Between Groups	1.689	2	.844	3.538	.053
	Within Groups	20.767	87	.239		
	Total	22.456	89			

Conclusion

Four themes or areas of instructional competencies were identified from the teaching skills/ traits/characteristics listed down during the focus group discussion. These were found to be aligned with the teaching skills identified in the FAA's Aviation Instructors' Manual. The categories were then incorporated in the enhanced instrument and served as the sections for the different items to be evaluated, these are, Inter-Personal Skills, Mastery of Subject Matter, Instructional Management Abilities, and Assessment Skills.

The enhanced Faculty Performance Evaluation Instrument uses a rubric-type performance rating scale with specific criterion that allows student evaluator to easily quantify and appraise faculty performance, classified into Beginning, Developing, Proficient, and Exemplary. These descriptors replace the arbitrary adjectival descriptors used in the current instrument which are, poor, unsatisfactory, satisfactory, very satisfactory, and outstanding.

Pilot testing of the instrument and comparison with the current instrument revealed that the numerical rating was drastically lower but are however more realistic. All respondents evaluated their instructors as outstanding using the current instrument but only "very satisfactory" using the enhanced instrument. This could have been due to the specific descriptors used in the performance rating scale that requires that the instructor shows or demonstrates "clear, consistent and convincing evidence" of such item under evaluation.

Content and Face validity of the enhanced instrument were established through expert validation, while reliability was determined using Cronbach's Alpha to be very high with an alpha value of 0.960. Acceptability level was also determined to be very high with an over-all mean value of 3.48. No significant difference in the acceptability level was found among respondents when they were grouped based on curricular offerings, i.e, among AMT, AVT, and Aero/AT groups.

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