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Comparative Analysis of Research Supervision Practices in Universities of Khyber Pakhtunkhwa

Abstract   *The research aimed to an investigation of comparative analysis of research supervision practices of research supervisors in KP universities. Objectives of the study were to find out the current practices of research supervision in M. Phil and Ph.D. Quantitative method and descriptive survey research design were used for the study. The 46 supervisors were taken as a sample of the study using a total population sampling technique. Research supervision practices questionnaire was used with a four-point Likert scale. The data collected from supervisors and then analyzed in SPSS. It was found that the majority of supervisors used research supervision practices like feedback and they are specialized in their area and have managerial skills for better research. It was recommended that supervisors maybe encourage and guide their research scholars where data or information (Literature) may be assessable in the relevant library. It is also recommended that supervisors may facilitate the research scholars by using their personal contact for the research study.*

Key Words: Research Supervisor, Supervision Practices. Research Guidance and Feedback

Introduction

Supervision is the process of rigorous, interactive and focused relationship between supervisor and supervisee. The supervisor's role is to facilitate the supervisee in terms of the research project and academic tasks for their better achievement. Doers (2004) stated that research paves the way for young scholars to belong to the community of learning, experiencing, independent thinking, teamwork, leadership and communication as the work under the direction of the supervisor.

It is a complex effort to educate the early stage of a young researcher. It is reflected that skills are a vital component in the process of research. It is necessary to rise the number of advanced researches. In this matter, supervisors have a vital role. It is cleared that the supervisor's research practices have a direct effect on the outcome of the study. Students faced the problems and challenges are frequently the same. Appropriate guidelines and cooperation with their supervisor are very important. Supervisor and supervisee's roles to enhance research skills are the basic requirement of the effective supervision process. Abiddin (2006), and Abiddin and West (2007) stated that the relationship between them depends on their management and maximum supervision activities have to be supported by the supervisor's guidance. The demand for higher education (HE) is increasing but there a lack of facilities in public sector universities. Ali (1998) stated that there are many problems such as lack of financial support, laboratories, conveyance facilities, typing and computer services which hamper research work.

There are many elements that effect the performance of supervisor with their supervisee. Beasley (1999) and Vilkinas (2008) stated that supervisors must have research knowledge and related skills. They also need to overcome management and interpersonal skills. Pearson and Kayrooz (2005) stated that both supervisor and supervisee must have the ability to organize the activities of the research program and provide appropriate guidance to students.

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The research supervision has been increased in the last few years (Kiley, 2009; Kiley & Wisker, 2009). The demand for the professional development of research at higher educational levels has been increased in terms of their importance and experience of the supervisor, which helps them to complete the research project on time.

Research Objective

The objective of the study was to find out and compare the current practices of research supervision in M. Phil and Ph. D in education.

Literature Review

Sankaran (2009) expressed that research supervision may be a process utilized by supervisors and researchers to take and give direction on all viewpoints of the candidature where they give/receive both formal and casual input on candidate's research work and offer assistance the candidate to be a competent analyst.

Kilmineter, Cottrell, Grant, and Jolly (2007) defined supervision as the process of giving feedback and guidance to the supervisee about their personal, educational and professional growth. Beach and Reinhartz (2000) stated that from an educational perspective, it is the process in which the educators enhance the skills, knowledge of teachers, make a collaborative relationship to increase the quality of teaching and learning process.

James and Baldwin (1999) identified ten practices associated with effective research supervision:
Johnson (1999) mentioned that the involvement of the supervisor is pivotal to the victory of a researcher's venture. Offer assistance understudies build the leading conceivable investigate proposition – audit their targets, their technique, and their timelines. The supervisor works with the supervisee to see which inquire is best to indulge in, offer assistance to discover the correct scale for their venture, and offer assistance to find assets that will help them total their project.

Svinicki (2001) stated that deliver students with centered composing errands from an awfully early organize in their venture. These writing surveys, conceptual systems, reports, or basic rundowns will not as it served as the potential premise for thesis chapters, conference papers, or articles, but moreover, anticipate the assignment of composing from getting to be overwhelming afterward within the process. This could moreover offer assistance students discover their voice and work on their style; so that they can press out any major troubles they are having some time recently having to handle overpowering corrections to their proposition.

Hounsell (2003) stated that giving researchers with normal and helpful input makes a difference; they remain on track with their work. The criticism has a vital role in this regard. What students' esteem in input is affirmation of their victory (it's simple to miss the things that are going well), unambiguous distinguishing proof of issue ranges, and proposals for how to handle them.

Harmin (1994) stated that treat researchers as your colleagues in the mental enterprise – keep them energized around their work by locks in them in talks about, sympathizing with their challenges, and making a difference they discover openings to share their excitement for their work.

Lindenmayer and Likens (2009) stated that for most individuals, completing a research degree is one of their greatest achievements in life, and their enthusiastic venture causes stresses and strains. Minutes of question can begin to seem within the last stages. Indeed, in spite of the fact that the tremendous bulk of the work has been done and (within the supervisor's supposition) small extra work may be vital, a few understudies, in any case, slow down. The administrator must be a calming and consoling impact, whereas at the same time playing the devil's advocate and putting the work through a comprehensive quality-assurance audit.

Research Methodology

A questionnaire for supervisors was used to collect the data. The population of the study comprised of

46 research supervisors of the department of education. There are 46 supervisor faculty members with Ph.D. degree were taken as the sample of the study using a total population sampling technique for the selection of supervisors. ANOVA was used to compare the nine universities' responses. Moreover, post hoc HSD Tukey was used to compare the significant differences among universities and a homogeneous subset analyzed the mean differences of each university responses. The post-hoc Tukey test was used when researcher had many groups. It also prevents the results from type-1 error and family-wise error.

Data Analysis

Table 1. Descriptive statistics of Research Supervision Practices

	N	Min	Max	Mean	SE Mean	SD
Feedback	46	0.67	3.00	2.231	0.092	0.624
Area of Specialization	46	0.75	3.00	2.092	0.090	0.608
Managerial skills	46	1.00	3.00	2.354	0.068	0.464

Table 1 shows that the supervisors provide feedback to scholars (Min = 0.67, Max = 3.00, Mean = 2.231, SE Mean = 0.092 and SD = 0.624). The majority of the respondents claim that they supervise according to the area of specialization (Min = 0.75, Max = 3.00, Mean = 2.092, SE Mean = 0.090 and SD = 0.608). The supervisors use managerial skills to manage the research work of the scholars properly (Min = 1.00, Max = 3.00, Mean = 2.354, SE Mean = 0.068 and SD = 0.464). It was concluded that majority of the teachers responded that they often give feedback, supervise according to the area of specialization and use managerial skills to scholars.

Table 2. Comparison Among Universities in Feedback

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	8.038	8	1.005	3.918	0.002
Within Groups	9.489	37	0.256		
Total	17.527	45			

The ANOVA associated with the feedback in research supervision practices in table 2. It can be seen that feedback (Sum of Squares between groups = 8.038, df = 8, Mean Square = 1.005) and (sum of Squares within groups = 9.489, df = 37, Mean Square = 0.256) with (F = 3.918) and (p = 0.002 < 0.05). It is evident that the overall comparison of universities regarding the feedback of research supervision practices is significant.

For in-depth analysis of comparison among universities, Highest Significant Difference (Tukey's HSD) was used as the post-hoc test. As it is reported that post-hoc test identifies which university has difference. Moreover, homogenous subset testified the mean a difference between the universities. HSD post-hoc test was introduced as reported in table 3

Table 3. Tukey's HSD one-way ANOVA for Multiple Comparisons of Feedback Among Universities

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.
UOP	HU	0.400	0.3066	0.924
	ICP	1.416·	0.3268	0.003
	AWKUM	0.888	0.2923	0.090
	UOS	0.666	0.3268	0.527
	SBBUP	0.000	0.3066	1.000
	GU	0.400	0.3066	0.924
	KUST	0.333	0.3268	0.981
	UOH	0.142	0.2817	1.000
HU	ICP	1.016	0.3397	0.100

	AWKUM	0.488	0.3066	0.802
	UOS	0.266	0.3397	0.997
	SBBUP	-0.400	0.3202	0.939
	GU	0.000	0.3202	1.000
	KUST	-0.066	0.3397	1.000
	UOH	-0.257	0.2965	0.993
ICP	AWKUM	-0.527	0.3268	0.791
	UOS	-0.750	0.3580	0.492
	SBBUP	-1.416	0.3397	0.005
	GU	-1.016	0.3397	0.100
	KUST	-1.083	0.3580	0.093
	UOH	-1.273	0.3174	0.008
AWKUM	UOS	-0.222	0.3268	0.999
	SBBUP	-0.888	0.3066	0.122
	GU	-0.488	0.3066	0.802
	KUST	-0.555	0.3268	0.743
	UOH	-0.746	0.2817	0.202
UOS	SBBUP	-0.666	0.3397	0.577
	GU	-0.266	0.3397	0.997
	KUST	-0.333	0.3580	0.990
	UOH	-0.523	0.3174	0.771
SBBUP	GU	0.400	0.3202	0.939
	KUST	0.333	0.3397	0.985
	UOH	0.142	0.2965	1.000
GU	KUST	-0.066	0.3397	1.000
	UOH	-0.257	0.2965	0.993
KUST	UOH	-0.190	0.3174	1.000

Tukey' HSD post-hoc test applied for multiple comparisons of groups in which UOP with HU, AWKUM, UOS, SBBUP, GU, KUST and UOH (Mean Differences = 0.400, 0.888, 0.666, 0.000, 0.400, 0.333 and 0.142) respectively show that research supervisor of UOP provide feedback to scholars in a better way, however difference found non-significant depicted by p-values (0.924, 0.090, 0.527, 1.000, 0.924, 0.981 and 1.000 > 0.05), except the difference between UOP and ICP is significant (Mean Difference = 1.416) with p-value (0.003 < 0.05).

HU research supervisors provide feedback better than supervisors of ICP, AWKUM, and UOS (Mean Differences = 1.016, 0.488, and 0.266) and provide feedback not better than supervisors of SBBUP, GU, KUST and UOH (Mean Differences = -0.400, 0.000, -0.066 and -0.257) respectively. However, all differences are found non-significant depicted by p-values (0.100, 0.802, 0.997, 0.939, 1.000, 1.000 and 0.993) which are greater than (0.05) level.

The research supervisors of ICP provide feedback not better than supervisors of AWKUM, UOS, GU and KUST (Mean Differences -0.527, -0.750, -1.016, and -1.083) respectively found non-significant depicted by p-values (0.791, 0.492, 0.100, and 0.093). The research supervisors ICP also provide feedback not better than supervisors of SBBUP and UOH (Mean Differences = -1.416, -1.273) with p-values (0.005, 0.008 > 0.05) respectively found significant different.

The research supervisors of AWKUM do not provide feedback better than UOS, SBBUP, GU, KUST and UOH (Mean Differences -0.222, -0.888, -0.488, -0.555 and -0.746) respectively and also found non-significant depicted by p-values (0.999, 0.122, 0.802, 0.743 and 0.202) as all values of p are greater than (0.05) level.

The research supervisors of UOS also do not give feedback better than SBBUP, GU, KUST and UOH (Mean Differences -0.666, -0.266, -0.333 and -0.523) respectively found non-significant depicted by p-values (0.577, 0.997, 0.990 and 0.771) which are greater than (0.05) level.

The research supervisors of SBBUP also do not offer feedback to research scholars better than the supervisors of GU, KUST and UOH (Mean Differences 0.400, 0.333, and 0.142) respectively found non-significant depicted by p-values (0.939, 0.985 and 1.000) which are greater than (0.05) level.

Likewise, the research supervisors of GU also do not offer feedback to research scholars better than the supervisors of KUST and UOH (Mean Differences -0.066 and -0.257) respectively found non-significant depicted by p-values (1.000 and 0.993) which are greater than (0.05) level.

Similarly, the research supervisors of KUST also do not offer feedback to research scholars UOH (Mean Differences -0.190) found non-significant depicted by p-values (1.000) which is greater than (0.05) level.

Table 4. Tukey's One-way Post-hoc Homogenous subset for Comparison among Universities in Feedback

HSD Tukey		Subset for Alpha	
Groups	N	1	2
ICP	4	1.2500	
AWKUM	6	1.7778	1.7778
UOS	4	2.0000	2.0000
HU	5	2.2667	2.2667
GU	5	2.2667	2.2667
KUST	4		2.3333
UOH	7		2.5238
SBBUP	5		2.6667
UOP	6		2.6667
Sig.		0.070	0.164
Means for groups in homogeneous subsets are displayed.			

The normality and homogeneity of variance test indicated in table 4 in which the data satisfied the assumptions of the ANOVA test. ANOVA test showed that there was significant difference amongst nine groups (F value = 3.918, p-value = 0.002 < (0.05). Post-hoc test further pinpointed exactly where the mean difference located. Comparison of mean values of ICP with AWKUM, UOS, HU, GU, KUST, UOH, SBBUP and UOP (1.2500 < 1.7778, 2.0000, 2.2667, 2.2667, 2.3333, 2.5238, 2.6667 and 2.6667) respectively found a significant difference. Moreover, AWKUM with UOS, HU, GU, KUST, UOH, SBBUP and UOP has mean differences (1.7778 < 2.0000, 2.2667, 2.2667, 2.3333, 2.5238, 2.6667 and 2.6667).

Table 5. Comparison among Universities in the area of Specialization

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	5.784	8	0.723	2.457	0.030
Within Groups	10.886	37	0.294		
Total	16.670	45			

The ANOVA associated with the area of specialization in research supervision practices in table 5. It can be seen that area of specialization (Sum of Squares between groups = 5.784, df = 8, Mean Square = 0.723) and (sum of Squares within groups = 10.886, df = 37, Mean Square = 0.294) with (F = 2.475) and (p = 0.030 < 0.05). It is evident that the overall comparison of universities regarding the area of specialization of research supervision practices is significant.

For analysis of comparison among universities, Highest Significant Difference (Tukey's HSD) was used as the post-hoc test. As it is reported that the post-hoc test identifies which university has the difference. Moreover, homogenous subset testified the mean difference between the universities. So, HSD post-hoc test was introduced as reported in table 6

Table 6. Tukey's HSD one-way ANOVA for Multiple Comparisons of area of Specialization among Universities

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.
UOP	HU	0.266	0.3284	0.996
	ICP	1.104	0.3501	0.069
	AWKUM	0.458	0.3131	0.865
	UOS	0.354	0.3501	0.982
	SBBUP	0.216	0.3284	0.999
	GU	-0.033	0.3284	1.000
	KUST	0.916	0.3501	0.214
	UOH	0.059	0.3017	1.000
HU	ICP	0.837	0.3638	0.367
	AWKUM	0.191	0.3284	1.000
	UOS	0.087	0.3638	1.000
	SBBUP	-0.050	0.3430	1.000
	GU	-0.300	0.3430	0.993
	KUST	0.650	0.3638	0.690
	UOH	-0.207	0.3176	0.999
ICP	AWKUM	-0.645	0.3501	0.654
	UOS	-0.750	0.3835	0.582
	SBBUP	-0.887	0.3638	0.294
	GU	-1.137	0.3638	0.074
	KUST	-0.187	0.3835	1.000
	UOH	-1.044	0.3399	0.083
AWKUM	UOS	-0.104	0.3501	1.000
	SBBUP	-0.241	0.3284	0.998
	GU	-0.491	0.3284	0.850
	KUST	0.458	0.3501	0.922
	UOH	-0.398	0.3017	0.918
UOS	SBBUP	-0.137	0.3638	1.000
	GU	-0.387	0.3638	0.976
	KUST	0.562	0.3835	0.863
	UOH	-0.294	0.3399	0.993
SBBUP	GU	-0.250	0.3430	0.998
	KUST	0.700	0.3638	0.603
	UOH	-0.157	0.3176	1.000
GU	KUST	0.950	0.3638	0.217
	UOH	0.092	0.3176	1.000
KUST	UOH	-0.857	0.3399	0.255

Tukey' HSD post-hoc test applied for multiple comparisons of groups in which the research supervisors of UOP with HU, ICP, AWKUM, UOS, SBBUP, KUST and UOH (Mean Differences = 0.266, 1.104, 0.458, 0.354, 0.216, 0.916 and 0.059) respectively show that the research supervisors of UOP guide research scholars according to their research area of specialization in a better way and not in a better way than research supervisors of GU (Mean Differences = -0.033), but found all differences non-significant as depicted by p-values (0.996, 0.069, 0.865, 0.982, 0.999, 1.000, 0.214 and 1.000) which are greater than (0.05) level.

Moreover, research supervisors of HU guide research scholars according to their research area of specialization in a better way than the research supervisors of ICP, AWKUM, UOS, and KUST (Mean Differences = 0.837, 0.191, 0.087, and 0.650) respectively. The research supervisors of HU guide research scholars according to their research area of specialization not in a better way than the research

supervisors of UOS, SBBUP, GU, and UOH (Mean Differences = -0.050, -0.300, and -0.207) respectively, but found non-significant depicted by p-values (0.367, 1.000, 1.000, 1.000, 0.993, 0.690 and 0.999) which are greater than (0.05) level.

The research supervisors of ICP guide research scholars according to their research area of specialization not in a better way than the research supervisors of AWKUM, UOS, SBBUP, GU, KUST and UOH (Mean Differences -0.645, -0.750, -0.887, -1.137, -0.187 and -1.044) respectively, but found non-significant difference depicted by p-values (0.654, 0.582, 0.294, 0.074, 1.000 and 0.083) which are greater than (0.05) level.

The research supervisors of AWKUM guide research scholars according to their research area of specialization not in a better way than the research supervisors of UOS, SBBUP, GU, and UOH (Mean Differences -0.104, -0.241, -0.491, and -0.398) respectively and the research supervisors of AWKUM provide guidance to research scholars according to their research area of specialization in a better way than the research supervisors of KUST (Mean Differences 0.458) but found all differences non-significant as depicted by p-values (1.000, 0.998, 0.850, 0.922 and 0.918) which are greater than (0.05) level.

The research supervisors of UOS guide research scholars according to their research area of specialization not in a better way than the research supervisors of SBBUP, GU, and UOH (Mean Differences -0.137, -0.387, and -0.294) respectively and the research supervisors of UOS provide guiding the research scholars according to their research area of specialization in a better way than the research supervisors of KUST (Mean Differences= 0.562), but found non-significant depicted by p-values (1.000, 0.976, 0.863, and 0.993) which are greater than (0.05) level.

The research supervisors of SBBUP guide research scholars according to their research area of specialization not in a better way than the research supervisors of GU, and UOH (Mean Differences= -0.250, 0.700 and -0.157) respectively the research supervisors of SBBUP guide the research scholars according to their research area of specialization in a better way than the research supervisors of KUST (Mean Differences= 0.700), but found all differences non-significant as depicted by p-values (0.998, 0.603 and 1.000) which are greater than (0.05) level.

The research supervisors of GU guide research scholars according to their research area of specialization in a better way than the research supervisors of KUST and UOH (Mean Differences 0.950 and 0.092) respectively found non-significant depicted by p-values (0.217 and 1.000) which are greater than (0.05) level.

Similarly, the research supervisors of KUST provide guidance to research scholars according to their research area of specialization not in a better way than the research supervisors of UOH (Mean Differences -0.857), but the difference found non-significant depicted by p-values (0.255) which are greater than (0.05) level.

Table 7. Tukey's One-way Post-hoc Homogenous subset for Comparison among Universities in the area of Specialization

HSD Tukey		Subset for Alpha	
Groups	N	1	2
ICP	4	1.3125	
KUST	4	1.5000	1.5000
AWKUM	6	1.9583	1.9583
UOS	4	2.0625	2.0625
HU	5	2.1500	2.1500
SBBUP	5	2.2000	2.2000
UOH	7	2.3571	2.3571
UOP	6	2.4167	2.4167
GU	5		2.4500
Sig.		0.063	0.166
Means for groups in homogeneous subsets are displayed.			

The normality and homogeneity of variance test indicated in table 7 in which the data satisfied the assumptions of the ANOVA test. ANOVA test showed that there was significant difference amongst nine groups (F value = 2.457, p-value = 0.030 < (0.05). Post-hoc test further pinpointed exactly where the mean difference located. Comparison of mean values of ICP with KUST, AWKUM, UOS, HU, SBBUP, UOH, UOP, and GU (1.3125 < 1.5000, 1.9583, 2.0625, 2.1500, 2.2000, 2.3571, 2.4167 and 2.4500) respectively found slightly difference. Furthermore; KUST with AWKUM, UOS, HU, SBBUP, UOH, UOP, and GU (1.5000 < 1.9583, 2.0625, 2.1500, 2.2000, 2.3571, 2.4167 and 2.4500) respectively found slightly difference.

Table 8. Comparison among Universities in Managerial Skills

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	4.105	8	0.513	3.391	0.005
Within Groups	5.599	37	0.151		
Total	9.704	45			

The ANOVA associated with the managerial skills in research supervision practices in Table 8. It can be seen that managerial skills (Sum of Squares between groups = 4.105, df = 8, Mean Square = 0.513) and (sum of Squares within groups = 5.599, df = 37, Mean Square = 0.151) with (F = 3.391) and (p = 0.005 < 0.05). It is evident that the overall comparison of universities regarding the managerial skills of research supervision practices is significant.

For in-depth analysis of comparison among universities, Highest Significant Difference (Tukey's HSD) was used as post-hoc test. As it is reported that the post-hoc test identifies which university has a difference. Moreover, homogenous subset testified the mean difference between the universities. So, HSD the post-hoc test was introduced as reported in table 9.

Table 9. Tukey's HSD one-way ANOVA for Multiple Comparisons of Managerial Skills Among Universities

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.
UOP	HU	0.257	0.2355	0.972
	ICP	0.607	0.2511	0.305
	AWKUM	0.761	0.2245	0.039
	UOS	0.357	0.2511	0.882
	SBBUP	-0.028	0.2355	1.000
	GU	-0.171	0.2355	0.998
	KUST	0.285	0.2511	0.964
	UOH	0.020	0.2164	1.000
HU	ICP	0.350	0.2609	0.912
	AWKUM	0.504	0.2355	0.462
	UOS	0.100	0.2609	1.000
	SBBUP	-0.285	0.2460	0.960
	GU	-0.428	0.2460	0.718
	KUST	0.028	0.2609	1.000
	UOH	-0.236	0.2277	0.979
ICP	AWKUM	0.154	0.2511	0.999
	UOS	-0.250	0.2750	0.991
	SBBUP	-0.635	0.2609	0.295
	GU	-0.778	0.2609	0.102
	KUST	-0.321	0.2750	0.958
	UOH	-0.586	0.2438	0.310
AWKUM	UOS	-0.404	0.2511	0.792

	SBBUP	-0.790	0.2355	0.043
	GU	-0.933	0.2355	0.009
	KUST	-0.476	0.2511	0.620
	UOH	-0.741	0.2164	0.036
	SBBUP	-0.385	0.2609	0.858
UOS	GU	-0.528	0.2609	0.536
	KUST	-0.071	0.2750	1.000
	UOH	-0.336	0.2438	0.898
	GU	-0.142	0.2460	1.000
SBBUP	KUST	0.314	0.2609	0.950
	UOH	0.048	0.2277	1.000
GU	KUST	0.457	0.2609	0.712
	UOH	0.191	0.2277	0.995
KUST	UOH	-0.265	0.2438	0.972

Tukey' HSD post-hoc test applied for multiple comparisons of groups in which the research supervisors of UOP use managerial skills for guidance to research scholars in a better way than the research supervisors of HU, ICP, UOS, KUST and UOH (Mean Differences = 0.257, 0.607, 0.357, 0.285 and 0.020) respectively and the research supervisors of UOP use managerial skills for guidance to research scholars in a better way than the research supervisors of SBBUP, and GU(Mean Differences = -0.028, and -0.171) but found differences non-significant as depicted by p-values (0.972, 0.305, 0.882, 1.000, 0.998, 0.964 and 1.000) which are greater than (0.05) level. However, the research supervisors of UOP use managerial skills for guidance to research scholars in a better way than the research supervisors of AWKUM (Mean Difference = 0.761) and the difference is significant as the p-value (0.039 < 0.05).

The research supervisors of HU use better managerial skills for guidance to research scholars than the research supervisors of ICP, AWKUM, UOS, and KUST (Mean Differences = 0.350, 0.504, 0.100, and 0.028) respectively. The research supervisors of HU do not use better managerial skills for guidance to research scholars than the research supervisors of GU, UOH (Mean Differences = -0.428, and -0.236) respectively, butt all differences found non-significant depicted by p-values 0.912, 0.462, 1.000, 0.960, 0.718, 1.000 and 0.979) which are greater than (0.05) level.

The research supervisors of ICP do not use better managerial skills for guidance to research scholars than the research supervisors of AWKUM, UOS, SBBUP, GU, KUST and UOH (Mean Differences 0.154, -0.250, -0.635, -0.778, -0.321 and -0.586) respectively, but found the differences non-significant as depicted by p-values (0.999, 0.991, 0.295, 0.102, 0.958 and 0.310) which are greater than (0.05) level.

The research supervisors of AWKUM do not use better managerial skills for guidance to research scholars than the research supervisors of UOS, SBBUP, GU, KUST and UOH (Mean Differences -0.404, 0.790, -0.933, 0.476, and 0.741). The difference between the research supervisors of AWKUM and UOS, and KUST is not significant as depicted by p-values (0.792, 0.620) which are greater than (0.05) level. However, the difference between the research supervisors of AWKUM between SBBUP, GU and UOH found significant (Mean Differences = -0.790, -0.933, -0.741) p-values (0.043, 0.009 and 0.036 < 0.05).

The research supervisors of UOS do not use better managerial skills for guidance of research scholars than the research supervisors of SBBUP, GU, KUST and UOH (Mean Differences -0.385, -0.528, -0.071 and -0.336) respectively but found the difference non-
significant as depicted by p-values (0.858, 0.536, 1.000 and 0.898) which are greater than (0.05) level.

The research supervisors of SBBUP do not use better managerial skills for guidance of the research scholars than the research supervisors of GU (Mean Differences -0.142). The research supervisors of SBBUP use better managerial skills for guiding the research scholars than the research supervisors of

KUST and UOH (Mean Differences= 0.314 and 0.048) respectively but found non-significant depicted by p-values (1.000, 0.950 and 1.000) which are greater than (0.05) level.

The research supervisors of GU use better managerial skills for guidance to scholars than the supervisors of KUST and UOH (Mean Differences= 0.457 and 0.191) respectively but found non-significant differences as depicted by p-values (0.712 and 0.995) which are greater than (0.05) level.

The research supervisors of KUST do not use better managerial skills for guidance of the research scholars than the research supervisors of UOH (Mean Differences -0.265) found non-significant depicted by p-values (0.255) which are greater than (0.972) level.

Table 10. Tukey's One-way Post-hoc Homogenous subset for Comparison among Universities in Managerial Skills

HSD Tukey		Subset for Alpha	
Groups	N	1	2
AWKUM	6	1.8095	
ICP	4	1.9643	1.9643
UOS	4	2.2143	2.2143
KUST	4	2.2857	2.2857
HU	5	2.3143	2.3143
UOH	7	2.5510	2.5510
UOP	6	2.5714	2.5714
SBBUP	5	2.6000	2.6000
GU	5		2.7429
Sig.		0.064	0.071
Means for groups in homogeneous subsets are displayed.			

The normality and homogeneity of variance test indicated in table 10 in which the data satisfied the assumptions of respectively, but found non-significant depicted ANOVA test. ANOVA test showed that there was significant difference amongst nine groups (F value = 2.457, p-value = 0.030 < (0.05). Post-hoc test further pinpointed exactly where the mean difference is located. Comparison of mean values of AWKUM with UOS, KUST, HU, UOH, UOP SBBUP and GU (1.8095 < 2.2143, 2.2857, 2.3143, 2.5510, 2.5714, 2.6000 and 2.7429) respectively found a slight difference.

Conclusions

The conclusions have been made based on the findings of the study. The details are given below:

i.   It was concluded that most of the supervisors agreed to use research supervision practices. It means that the universities have a research environment where supervisors use the practices to promote effective research process.

ii.   It was concluded that universities have significant differences in research supervision practices of feedback in terms of critically assess, immediate feedback, and written feedback on researcher work.

iii.   It was concluded that universities have a significant difference in research supervision practices in the area of specialization in terms of encouragement, guidance, additional information, and assistance with rules and regulations of research.

iv.   It was concluded that universities have a significant difference in research supervision practices of managerial skills in terms of maintaining research profile, approachable, supportive, positive attitude, and leadership attitude.

Recommendations

i.   It is recommended that supervisors have to maintain the attendance of research scholars for progress report in research. It may be on a monthly basis.

ii.   It is recommended that feedback may be on assigned tasks, completion within the time limit. Immediate and written feedback is required for a prompt reply from the supervisors for quality of research work.

iii.   It is recommended that supervisors be encouraged and guide their research scholars where data or information (Literature) may be assessable in relevant library. It is also recommended that supervisors may facilitate the research scholars by using their personal contact for research study.

iv.   It is recommended that research scholars data may be maintained based on monthly progress which is conditioned to supervisors allocated time how the researcher has incorporated the next agenda of the meeting, how he corresponds with supervisors and the way of argumentation for accepting or rejecting the guidelines of the supervisors.

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