Evaluation of Teachers Knowledge Regarding the Development of scientific Research Skills

تقييم معارف التدريسيين نحو تطوير مهارات البحث العلمي

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Abstract

Skills are very important subjects for teachers in higher education institutes to improve their abilities in researches. The aim of the study is to assess teacher's knowledge regarding the scientific research skills improvement. A descriptive study design was concluded on 20 teachers from different scientific department after conducting them in training course regarding the scientific research skills. A special questionnaire form was prepped by the investigator for this purpose. The study results revealed that most teachers agree with the training course regarding its directly related to their scientific fields (100%). Majority of study teachers suggested for the future improvement in scientific research. Skills are increasing the practical aspect (60%). The study recommended that future studies should be concentrated on this aspect of the research skills.

Keywords: training course, scientific research, skills, teachers.

Introduction

Scientific research is a very important subject including many research skills that are needed for every study and without these skills

any research cannot completed or conducted correctly. Regarding these skills:

The first skill is critical thinking which means the ability to solve problems and verify of something that is attributed to agree previous standards during the related evaluation of solutions offered. The important scientific value of the results when getting to deal with the problems that contain a small amount of information and facts that needed [1, 2].

Second essential skill is analysis is defined as that process taking place through data input using all ways, either mathematic or logical hypothesis in order to reach useful information that can make the exact decisions on them correctly. The areas that are used in this process are the statistical analysis for the study of the differences between a set of data that entered in order to put the final results [3].

The third skill is problem solving usually defined as the ability to clarify and estimate the problems in order to find out the suitable answer for each problem including analysis and evaluation. The problems need better imagination forward thinking for good communication skills between each part of the problem to reach the exact and innovative issue of the problem. Many aspects determine the problem solving like creativity, conceptual thinking and scientific experimentation [4, 5].

Lastly the final skills is dissemination mainly described as the process of connection between each part with the others and reached the final outcome result of them. This process need a good ability to summarize the information that collected and useful explanation of aims, then final analysis of the results with scientific conclusion and recommendation according to the needs of the research [6].

Therefore, in order to complete any research these four skills are needed and related to each other and if one is missed the research will be without any benefit [7].

Aims of the study

The study was aimed to assess the teacher's knowledge regarding the current training course for scientific research skills improvement.

Methodology

A- Ethical agreement

Official permission was taken from Kirkuk-Technical institute and from each teacher before establishing the study.

B- Study design

A descriptive study design was done on teachers from different scientific departments in Kirkuk Technical Institute.

C- Study period

The study was started from 1st January/2015 till the end of May/2015.

D- Study sampling

Twenty teachers (20) were included in the study after taking a written consent from each one to participate in the study after conducting them in the training course for scientific research skills improvement.

A two weeks training course for scientific research skills improvement was conducting among teachers and specific lectures including the essential research skills like problem solving, data analysis, writing the references and how to prepare the final research.

E- Data collection tool

A certain questionnaire form was prepared by the investigators including three main items:

1. Teacher's demographic distribution regarding age, sex, scientific degree, certificate and period in teaching.
2. Teacher's knowledge regarding the training course.
3. Teacher's suggestions regarding the future improvement for better training course.
4. Teacher's knowledge regarding topics of training course.

F- Statically analysis

A descriptive statistic was use for all the questions with Yes and No answer.

Likert scale containing three main variables which are

3 for Yes answers

2 for uncertain answers

1 for No answers

The summation of the above variables (3+2+1)/3=2. All the value above two (2) were regarded significant and all the value below two were regarded as not significant.

Chi - square was used to estimate the relation between the studied variable and p - value was significant at the level of 0.05.

Table 1 show that the most of study teachers are female (60%), assistant lecturers (90%), from the age between 30-40 years, (40%), having a master certificate (40%) and having a period in teaching more than 10 years (40%).

Table -1- Demographic distribution of study teachers

Socio- demographic Parameters		Study teachers N= 20	
		Number	Percent %
Age (years)	30 - 40	8	40
	41 - 50	8	40
	> 50	4	20
Sex	Male	8	40
	Female	12	60
Scientific degree	lectures	2	10
	Assistant lectures	18	90
Certificate	PhD	2	10
	Master	8	40
	Diploma	2	10
	Bachelor's	8	40
Period in teaching (years)	< 5	6	30
	5-10	6	30
	> 10	8	40
Study topics	Practical analysis	2	10
	Both of them	18	90

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Table 2 show that majority of study teachers having a good knowledge regarding the assessment of the current training course for the timing and duration of it which presents above a significant value (2.4),(2.5) respectively.

Table -2- Frequency distribution of the study teachers regarding their knowledge about the current training course

Teachers knowledge about the current training course	Study teachers N=20				Assessment value
	Adequate	Uncertain	Inadequate	Mean score	
1- The timing of the training course	14	0	6	2.4	Above-cut of point
2- The duration of the training course	12	6	2	2.5	Below-cut of point
3- Efficiency of training course lectures	2	12	6	1.8	Above-cut of point
4- Good practical aspect of the current training course	4	12	4	2	Above-cut of point
5- Useful in your scientific aspect	2	4	14	1.4	Below-cut of point

S = Above-cut of point
NS = Below-cut of point

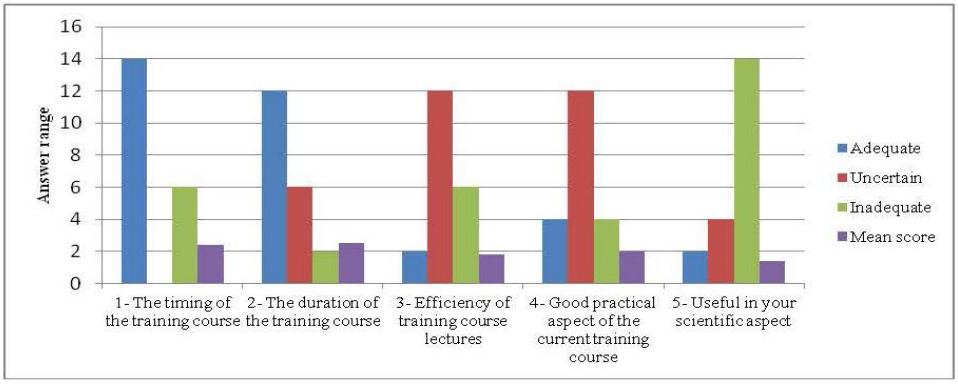

Figure -1- Knowledge assessment of the study teachers

Table 3 show that majority of study teachers agree with current training course regarding its directly related to their scientific fields (100%), on the other hand they disagree with using of teaching aids (40%).

(Hamza et.al/ 2014) said in his study on 24 students selected from among graduate students after conducting them in training program for developing

the research skills. They found that the percentage of trainees progress and benefits was 94% ; which confirms the effectiveness of the training program in achieving the desired objectives and receiving the needed information and skills for preparing the research [8].

Table -3- Frequency distribution of the study teachers knowledge regarding the topics of the current training course

Teachers knowledge regarding the topics of the current training course	Yes		No		P-value
	Number	Percent %	Number	Percent %	
1- Useful and connected with each other's	16	80	4	20	0.000
2- Directly related to scientific field	20	100	0	0	0.000
3- Interesting and comprehensive	18	90	2	10	0.000
4- Good uses of teaching aids	12	60	8	40	0.206
5- Addition of more scientific skills	18	90	2	10	0.000

χ^2 = Standard deviation was used DF = 4

Table 4 presented that most teacher's suggestions for the future improvement is increasing the practical aspect of the current training course in comparison with the disagreement of them regarding the time of the training course.

(Adrienne Showman et.al/2013), reported in his study about the essential five skills for every research, creativity, judgment, communication, organization, and persistence [9].

Table -4- Frequency distribution of the study teachers according to their future suggestions for the current training course improvement

Future suggestions for the current training course improvements	Yes		No		P-value
	Number	Percent %	Number	Percent %	
1- Increasing the time of training courses	10	50	10	50	1.000
2- Increasing the practical aspect	12	60	8	40	0.206
3- Encouraging of further training course	10	50	10	50	1.000
4- Enhancing technology support	11	55	9	45	0.527

χ^2 = Standard deviation was used DF = 3

Conclusions:

1. Majority of study teachers having a good knowledge regarding the current assessment of training program for timing and duration.

2. Most of study teachers agree with current training course regarding it directly related to their scientific fields.
3. Teachers suggestion for future improvement is to increase the practical aspect of training course.

Recommendations:

1. Further training programs should be conducted for scientific research, improvement in all as aspects.
2. Teachers should be encouraged for scientific research by conducting them in these program to improve their abilities in writing, searching and implementing the final paper.
3. More technical supports are needed.
4. Future studies can be concentrated on the scientific skills.
5. Evaluation of both graduated and under graduation students research regarding their filed study.
6. Future advanced monitory programs indicating the assessment of post graduate student research including the scientific research skills.
7. Designing and implementation of more scientific research skills program for both under graduate and postgraduate student.

المستخلص:

المهارات هي من المواضيع الهامة جدا للتدريسيين في مؤسسات التعليم العالي لتحسين قدراتهم في انجاز وكتابة البحوث. والهدف من هذه الدراسة هي تقييم ما يعرفه التدريسي فيما يتعلق بتحسين مهارات البحث العلمي. تم تدريب ٢٠ تدريسيا وتدريسية من الأقسام العلمية المختلفة في دورة تدريبية حول مهارات البحث العلمي. وأعدت لهذا الغرض استمارة استبيان خاصة من قبل الباحثين. وكشفت نتائج الدراسة أن معظم التدريسيين يتفق مع دورة تدريبية لها علاقة مباشرة مع المجالات العلمية وبنسبة (١٠٠٪). وأقترح غالبية التدريسيين التحسن المستقبلي في مجال البحث العلمي. اما بالنسبة للمهارات وزيادة الجانب

العملي فكانت النسبة (٦٠٪). والتوصية لهذه الدراسة هو أن تتركز الدراسات المستقبلية في هذا الجانب من المهارات البحثية.

الكلمات المفتاحية: دورة تدريبية، البحث العلمي، المهارات. التدريسيين.

References:

1- McConnel, John H., (2003). How to identify Your Organization's Training Needs: A Practical Guide to Needs Analysis, New York AMACOM.

2- University of Pennsylvania (2008). Creating successful research skills assignments. Retrieved at: www.gethelp.library.upenn.edu/faculty/research assig.html.

3- Leady, P. D., & Ormrod, J. E. (2005). Practical research: Planning and design (8thed.). Upper Saddle River, NJ: Prentic Hall.

4- Champan, Paige (2010). Students lack basic research skills, study, finds. Retrieved at: chronicle.com on April, 2013.

5- Sargeant, J., Mann, K., & Ferrier, S. (2005) Exploring family phy- sicians' reactions to multisource feedback: Preceptions of credit-ability and usefulness. Medical Education, 39, 497-504.

6- Thomas G. Carpenter Library. What is Original research? Original research is considered a primary source. University of North Florida. Archived from the original 9-7-2011. Retrieved 9 Aug 2014.

7- Laurie Rozakis. Schaum's Quick Guide to Writing Great research Papers. (http://books.google.com/books/?id=XIIH4R9Z_k8C&pg=PT75).

8- Hamza Abdel Hakam Al Reyashi, Ali Alsagheer Abdelal Hassan. (2014) University of King Khalid, college of Education. International Journal of Educational specialist, 1, 141-142.

9- Adrienne Showman, Linh Anh Cat, Jacquelyn Cook, Natalie Holloway, and Tyler Wittman. (2013). University of Central Floida. Volume 33, 3, 16-20.